Report of the Task Force on Inflation Protection for Employment Pension Plans

1988

Ontario

REPORT OF THE TASK FORCE ON INFLATION PROTECTION FOR EMPLOYMENT PENSION PLANS

TASK FORCE MEMBERS
Martin Friedland, Chairman
Sydney Jackson, Member
Clifford Pilkey, Member

Toronto
January 1988

© 1988, Queen's Printer for Ontario

ISBN 0-7729-3578-5

Additional copies of this and other Ontario Government Publications are available from:

The Ontario Government Bookstore, 880 Bay Street, Toronto, Ontario for personal shopping. Out-of-town customers write to: Publications Services Section, 5th floor, 880 Bay Street, Toronto, Ontario, M7A 1N8. Telephone (416) 965-6015 or toll free in Ontario 1-800-268-7540. In area code 807, dial 0-Zenith 67200. Hearing impaired call: (416) 965-5130 or toll free in Ontario, 1-800-268-7095. Master Card and Visa accepted. Cheques and money orders payable to the Treasurer of Ontario. Prepayment required.

Printed in Canada

Contents

1 Introduction 1

2 Coverage and Types of Plans 21

3 Present Practices 47

4 Recent Studies 75

5 Alternative Inflation Protection Formulas 89

6 Alternative Inflation Indexes and the Needs of the Elderly 111

7 Funding, Accounting, and Tax Considerations 130

8 Cost Analyses 158

9 Financial Instruments and Capital Markets 187

10 Deferred Pensioners 198

11 The Retired and Retroactivity 211

12 Special Situations 221

13 Surplus 237

14 Summary and Conclusions 258

Appendix 289

Detailed Contents

1. INTRODUCTION

I Task Force Background 1
- A. Inflation 3
- B. Surpluses in Employment Pension Plans 7

II Task Force Methodology 7

III History and Development of Employment Pension Plans in Canada 11

2. COVERAGE AND TYPES OF PLANS 21

I Introduction 21
- A. The Pension Picture in Canada 22
- B. Employment Pension Plans in Ontario 23
- C. The Administration of Private Employment Pension Plans 25

II Types of Employment Pension Plans 25
- A. Defined Benefit Plans 25
- B. Money Purchase (Defined Contribution) Plans 29
- C. Single and Multi-Employer Pension Plans 29
- D. Contributory and Non-Contributory Plans 30

III Superiority of Defined Benefit Plans 31

IV Are Defined Benefit Plans Threatened? 33

V The Impact of Inflation on Income Redistribution 34

3. PRESENT PRACTICES 47

I Government Programs 47
- A. Old Age Security (OAS) 48
- B. Guaranteed Income Supplement (GIS) 48
- C. Spouse's Allowance (SPA) 49
- D. Guaranteed Annual Income System (GAINS) 50
- E. Canada Pension Plan (CPP) 51

II Automatic Indexation 52
- A. Automatic Indexation of Public Sector Plans 54
- B. Automatic Indexation of Private Sector Plans 57

III Ad Hoc Increases 60
- A. Ad Hoc Increases in the Private Sector 60
- B. Ad Hoc Increases in the Public Sector 62

IV Indexing Employment Plan Benefits in Other Countries 63
- A. Sweden 64
- B. France 65
- C. Germany 66
- D. United Kingdom 68
- E. United States 71

4. RECENT STUDIES 75

I 'Cofirentes +' Committee 76
II Retirement without Tears 77
III One in Three 78
IV The Lazar Report 78
V The Haley Report 79
VI The CAPSA Proposal 81
VII The Green Paper 81
VIII Ontario Select Committee 82

IX Business Committee on Pension Policy 83
X Ontario Economic Council 84
XI The Frith Task Force 85
XII The Ontario White Paper 87
XIII Conclusion 88

5. ALTERNATIVE INFLATION PROTECTION FORMULAS 89

I Linkage to the Consumer Price Index (CPI) 89
  A. 100% of CPI Increases 90
  B. 60% of CPI Increases 92
  C. (100% of CPI) -$2^1/_2$% 96
  D. (75% of CPI) -1% 98

II Excess Earning Formulas 99
  A. CAPSA Excess Interest 101
  B. Yield on Treasury Bills Less 3.5% 102
  C. Fund Yield Less a Stated Percentage 104

III Caps and Other Formula Options 106
  A. Maximum Adjustments ('Caps') 106
  B. Minimum Adjustments ('Floors') 108
  C. Slices 108

IV Conclusion 109

6. ALTERNATIVE INFLATION INDEXES AND THE NEEDS OF THE ELDERLY 111

I Wage and Price Indexes 112
  A. Wage Indexes 112
  B. Price Indexes 113
  C. The Timing of Indexing Adjustments 115

II Do People's Needs Diminish with Retirement and The Aging Process? 116
- A. The Definition and Estimation of 'Needs' 116
- B. The Income and Assets of the Elderly 118
- C. Age and Consumption Expenditures 120

III Conclusion 123

7. FUNDING, ACCOUNTING, AND TAX CONSIDERATIONS 130

I Introduction 130

II Funding: Actuaries and the Pension Commission of Ontario 131
- A. Overview 131
- B. Choice of Assumptions 133
- C. Choice of Funding Formula and Amortization Period 138
- D. Funding for Excess Earnings Formulas 141
- E. Regulations Concerning Pension Fund Investments 141

III Accounting 142
- A. Overview 142
- B. Choice of Assumptions for Expensing Purposes 144
- C. Choice of Expensing Method and Amortization Period 146
- D. U.S. Reporting Regulations (FASB) 147
- E. Accounting for Ad Hoc Inflation Protection 148
- F. A Good Time for Inflation Protection? 149

IV Tax Considerations 149
- A. Overview 149
- B. Contribution Limits for Defined Benefit Plans 150
- C. Limits on Surpluses in Defined Benefit Plans 150
- D. Tax and Other Incentives to Switch from Defined Benefit Plans 152

E. Supplementary Retirement Plans 155

V Conclusion 156

8. COST ANALYSES 158

I Introduction 158

II Stage I: Long-run Costs 162

A. Previous Studies 162

B. The Task Force Stage I 164

III Stage II: First-year Operating Cost of Inflation Protection 167

A. Methodology 167

B. First-year Funding Cost Estimates for (75% of CPI) -1% 168

C. First-year Expensing Cost Estimates for (75% of CPI) -1% 171

IV Stage III: Multi-year Operating Cost of Inflation Protection 173

A. Methodology 173

B. Results 174

C. Summary 175

V Some Methods of Moderating the Costs of Retroactive Inflation Protection 176

VI Conclusions 178

9. FINANCIAL INSTRUMENTS AND CAPITAL MARKETS 187

I Financial Instruments 187

A. The Need For Inflation-Proof Assets 187

B. Conventional Assets Are Not Inflation-Proof 188

C. Index-Linked Assets 189

II Effects on Capital Markets 191
A. Aggregate Effects 191
B. Possible Effects on the Preferred Asset Mix 192

10. DEFERRED PENSIONERS 198

I Do Deferreds Need Different Treatment? 198
II Legislative Treatment of Deferreds 200
III The 50% Rule and Inflation Protection 202
IV Transfer Options 204
V Considerations in Choosing a Formula 206
VI Costs of Administration 208
VII Conclusion 209

11. THE RETIRED AND RETROACTIVITY 211

I The Meaning of 'Retroactivity' 211
II Who Bears the Cost of Mandatory Inflation Protection? 212
III The Advantages and Disadvantages of Retroactivity 214
IV Incentives for Voluntary Inflation Protection Adjustments by Sponsors 216
V Procedures for Phasing In Retroactive Inflation Protection 218

12. SPECIAL SITUATIONS 221

I Money Purchase Plans 221
II RRSPs 224
III Multi-Employer Pension Plans (MEPPs) 228
IV Union Plans 232
V Generous Plans 233
VI Maximum Limits 234

13. SURPLUS 237

I Causes 237
II Extent 243
III Use 245
IV Withdrawals 247
A. Ontario 248
B. Other Jurisdictions 250

V Ownership 252
VI A Legislative Solution 254

14. SUMMARY AND CONCLUSIONS 261

A CPI-Linked Formula 261
Smoothing and Timing of Adjustments 263
Alternative Acceptable Formulas 264
Deferred Pensioners 266
Money Purchase (Defined Contribution) Plans 268
Indexed Bonds 269
Group RRSPs 269
Timing For Collective Agreements 271
Multi-Employer Pension Plans 272
Retroactivity 273
Funding Period 275
Surpluses 276

MINORITY: CLIFFORD PILKEY 282

APPENDIX: SUBMISSIONS TO THE TASK FORCE 289

CHAPTER 1

Introduction

I TASK FORCE BACKGROUND

The Task Force on Inflation Protection for Employment Pension Plans was appointed by the Ontario government on the recommendation of the then Minister of Financial Institutions, the Honourable Monte Kwinter, on December 9, 1986, at the same time as Bill 170 (which became the Pension Benefits Act, 1987) was introduced for first reading in the Legislature. The members of the Task Force are Martin Friedland, Professor of Law at the University of Toronto, Chairman; Sydney Jackson, Chairman of The Manufacturers Life Insurance Company; and Clifford Pilkey, immediate past President of the Ontario Federation of Labour. The government did not include any specific provision for inflation protection in the Bill, but instead affirmed its commitment to inflation protection in pension plans and appointed this Task Force. At the same time, the government announced a moratorium on pension surplus withdrawals.

The Order-in-Council establishing our terms of reference includes the following preamble, which indicates the background to the establishment of the Task Force:

> WHEREAS the Ontario government supports the principle of mandatory inflation protection;
>
> AND WHEREAS there are no existing models for mandatory inflation protection in place in any Canadian jurisdiction;
>
> AND WHEREAS numerous formulas for inflation protection, with a variety of funding mechanisms, have been presented by various studies;
>
> AND WHEREAS Ontario has a responsibility as the first province to commit to taking action on inflation protection, to ensure that the direction given for implementation is well reasoned and effective.

The Task Force was established, therefore -- in the words of the Order-in-Council -- 'to ensure that the direction given for implementation is well reasoned and effective' and specifically 'to determine the most appropriate formula and phase-in procedures for inflation protection.'

We have been asked by the government to consider the following factors in our report:

> The needs of employees to have retirement income protected from the effects of inflation;
>
> The needs of employers to have finite and affordable pension costs;
>
> The importance of maintaining and expanding the private pension system and, in particular, defined benefit plans;
>
> The impact of any formula on active employees, existing pensioners and deferred pensioners;
>
> The formulae and recommendations contained in previous pension studies relating to inflation protection from Canadian jurisdictions;
>
> Initiatives studied by other jurisdictions and any formulae currently used in pension plans;
>
> The relationship between inflation protection and other pension reform items or issues in the Pension Benefits Act, 1986, such as the 50% employer cost, treatment of surplus, portability and vesting;
>
> The appropriate phase-in and implementation period for inflation protection; and,
>
> The appropriate time period to be provided to plan sponsors to fully fund inflation protection.

On June 25, 1987, on Third Reading in the Legislature, Bill 170 was amended to strengthen the commitment of the government to inflation protection. Section 54 was amended to include a formal requirement that pension plans would be adjusted for inflation, and that the prescribed formula or formulas would be subject to legislative approval. Section 54 provides:

> **54.**--(1) Pension benefits, pensions or deferred pensions shall be adjusted in accordance with the established formula or formulas and in the prescribed manner to provide inflation-related increases.

> (2) Any formula or formulas for any inflation related adjustments to pension benefits, pensions or deferred pensions shall be established only by amendment to this Act.

The Bill passed as amended and received Royal Assent on June 29, 1987. It is now the Pension Benefits Act, 1987.

It should be stressed at the outset that our Terms of Reference do not include the question of the expansion of the Canada Pension Plan. One of our members has publicly expressed his views on this topic[*] and believes that the expansion of that plan, which is fully indexed and universal, would be the best solution. Another member of the Task Force takes the opposite view on the desirability of such an approach. In this report, we are dealing with Ontario employment pension plans in both the private and public sectors. We collectively express no opinion on the Canada Pension Plan.

The two significant factors that placed the issue of inflation protection on the public agenda were (a) the impact of inflation, and (b) the existence of large surpluses in many employment pension plans.

A Inflation

Figure 1.1 shows the volatility of the rate of inflation from 1935 to 1985. In particular, the 1970s and early 1980s were periods of high inflation. For example, in 1974 and 1975, and in 1980 through 1982, the inflation rate, measured by the Consumer Price Index (CPI), reached an annual rate of 10 per cent or more. The erosion of purchasing power by inflation, particularly at the levels experienced in the last fifteen years, is a serious concern for all members of society, and especially for pensioners. Past studies on pension reform -- discussed in detail in Chapter 4 -- have identified inflation as a major issue requiring attention. The 1984 Ontario White Paper, for example, stated:

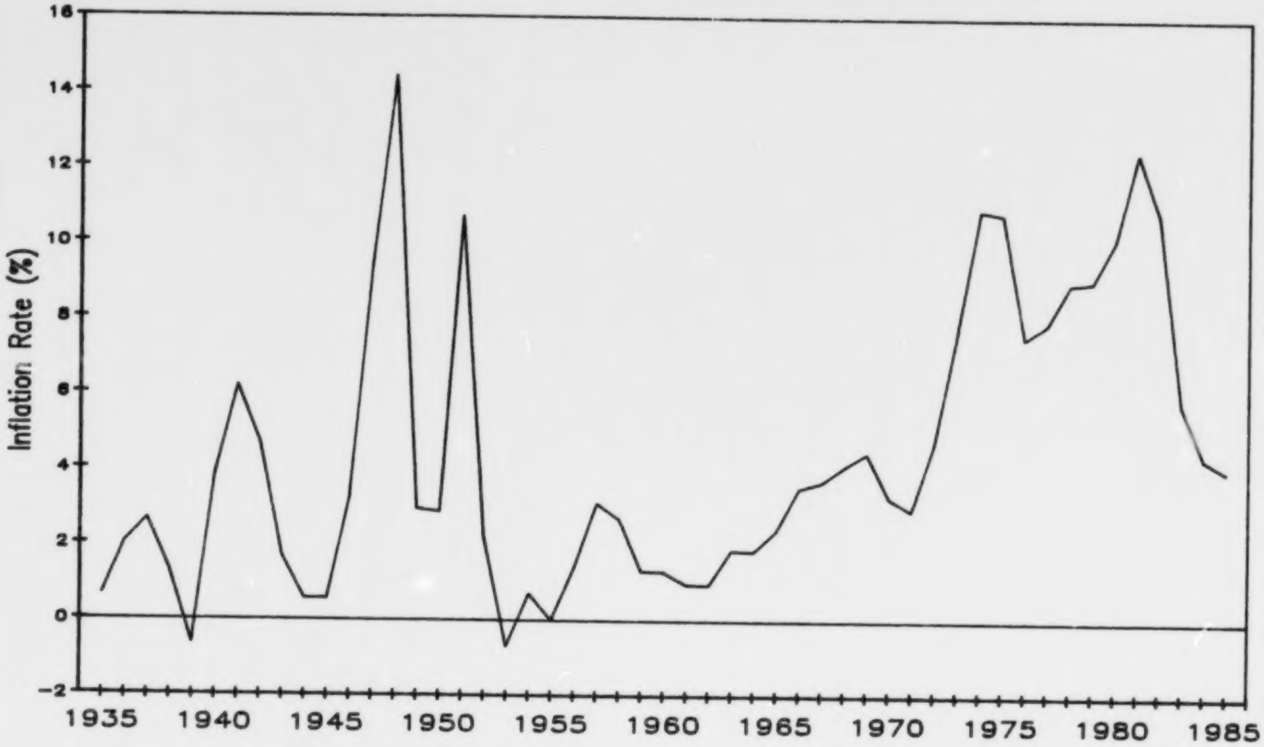
---

[*] *Clifford Pilkey, 'Public Versus Private Pensions', in D.W. Conklin, J.H. Bennett and T.J. Courchene, eds, 'Pensions Today and Tomorrow: Background Studies' (1984), Ontario Economic Council*

FIGURE 1.1

The Inflation Rate Over Fifty Years

Annual change in CPI (all Canada, all items, %)



Data provided by Dr J.E. Pesando

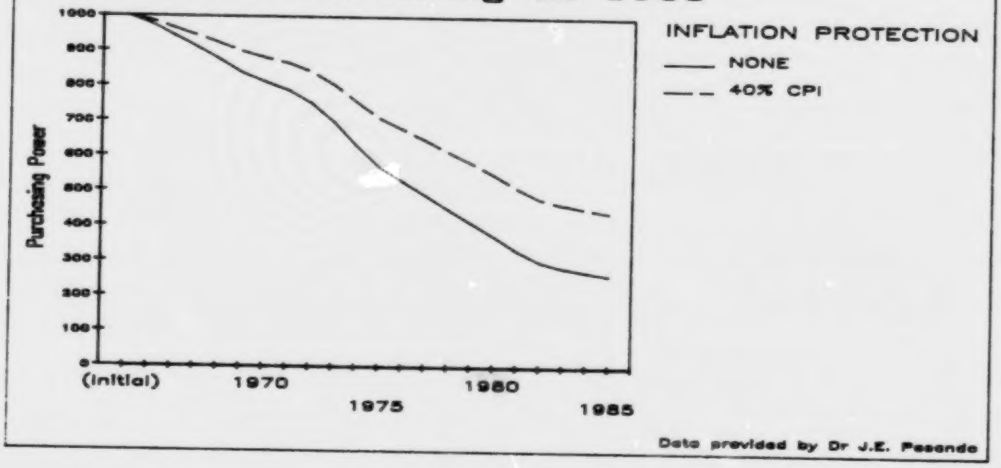
> Inflation erodes the purchasing power of pension benefits fixed in nominal terms and this can impose severe financial hardships on pensioners. During the ten year period 1972 to 1981, prices increased by an average of 8.8 per cent annually, and the real value of a pension payable in 1972 declined by 57 per cent. Even at low rates of inflation, the value of fixed pensions will decline significantly. Over ten years, a 3 per cent annual inflation rate will erode the value of a pension by 25.6 percent. (p. 43)

Table 1.1 and Figures 1.2 and 1.3 dramatically illustrate the erosion of purchasing power of the real value of employment pension plans. A person retiring in 1965 with an initial employment pension of $1,000 would have seen its real value decline by 1985 to $261 in 1965 terms, given the actual historical inflation rates between 1965 and 1985. Even someone retiring as recently as 1980 with a $1,000 benefit would have seen the value decline to $634 by 1985. Moreover, with pension adjustments equal to 40% of CPI increases -- the figure commonly attributed to the level of voluntary increases given by the more generous plan sponsors -- the real value of the 1965 pension would still be only $441 in 1985. Thus, while inflation is a concern to all Canadians, it is particularly serious to those on a fixed income who do not normally have employment opportunities to supplement their pension income.

Life expectancy has risen over the decades in Ontario as elsewhere in Canada and other developed countries. Mortality rates have fallen more or less continuously. Table 1.2 shows the changes in expected years of remaining life for persons aged 60 or older. Further decreases in mortality rates and increases in life expectancy can be expected. Future pensioners especially women, will live longer, and hence will be subject longer to the (cumulative) effects of continuing inflation.

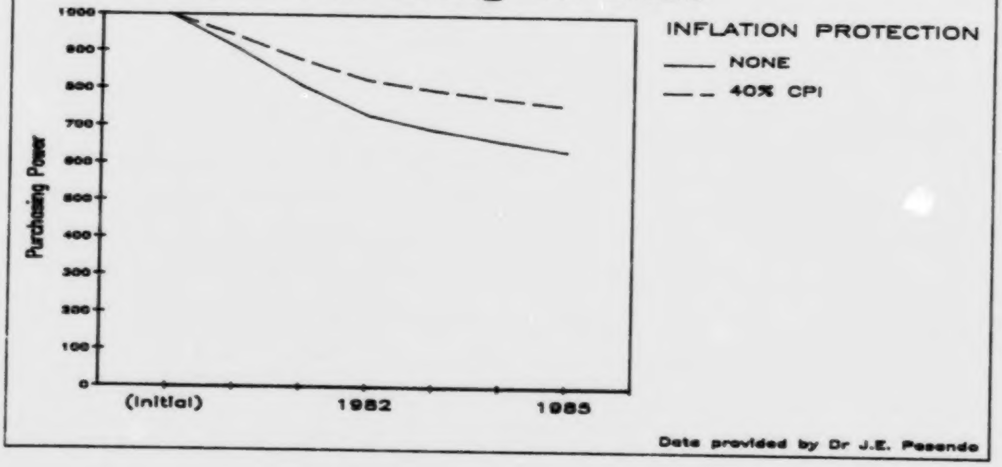
Given the potential impact of inflation on fixed incomes, to what extent are pensions insulated from these effects? All federal government pensions and supplements -- Old Age Security, the Canada Pension Plan, and the Guaranteed Income Supplement -- are fully indexed to the CPI. Thus, their real value remains constant even after periods of high inflation. Further, most public sector employees have some type of automatic inflation adjustment mechanism included in their employment pension plans.

FIGURE 1.2
Erosion of the Real Value of Employment Pension Plans for Individuals Retiring in 1965



Data provided by Dr J.E. Pesando

FIGURE 1.3
Erosion of the Real Value of Employment Pension Plans for Individuals Retiring in 1980



Data provided by Dr J.E. Pesando

On the other hand, few private sector plans are automatically indexed, although many plan sponsors do make voluntary (termed 'ad hoc') updates to offset at least partially the effects of inflation. Plans that have not been updated, and as Table 1.1 indicates even those that have been updated at 40 per cent of CPI, have suffered a very substantial decline in benefit value.

B Surpluses in Employment Pension Plans

Substantial pension surpluses are a relatively recent phenomenon, following a period of large deficits in the 1970s. In the early 1980s surpluses started to accumulate. They became a matter of public comment when companies sought to withdraw them for their own use. This was particularly so in the highly publicized case of the Dominion Stores surplus, which the company attempted to withdraw. The Ontario Divisional Court blocked the withdrawal.[1] In many plans the actuarial surpluses have been very large, as will be seen in Chapter 13. The serious downturn in the stockmarket in October 1987 will of course affect the extent of the surplus in many individual plans, though by how much is uncertain.

These events have added to the concern among many interests over the control, ownership, and use of this surplus. Many persons and organizations have argued that surplus should be used for inflation protection, while others have argued that employers should have sole use and control of surplus, including the right to its withdrawal in an ongoing pension plan. The government has frozen the withdrawal of surplus assets until the Task Force has reported and has asked us in our terms of reference to examine the relationship between 'inflation protection' and the 'treatment of surplus'.

II TASK FORCE METHODOLOGY

The Task Force has been ably assisted by many persons in developing its research agenda. We were fortunate to obtain the services of Dr. David Conklin to act as Executive Director. In his former capacity as executive director of the

Ontario Economic Council, and in his similar position for the Task Force on Mandatory Retirement, David Conklin acquired considerable experience dealing with pension-related issues.

On February 21, 1987, a symposium with various pension experts was organized by James Pesando, Professor of Economics and Director of the Institute for Policy Analysis at the University of Toronto. This meeting helped clarify the issues that required research. A Research Advisory Committee was established to act as a sounding board for the various questions coming before the Task Force, and to help identify and develop avenues of research. The members of that committee were Keith Ambachtsheer, a specialist on pension investments; Shiraz Bharmal, an actuary and vice-president of Towers, Perrin, Forster and Crosby; John Ilkiw, an economist who had helped develop pension policy for the Ontario government until 1986, currently with William M. Mercer Limited; Don Lee, an economist and principal of Union Pension Services Ltd.; James Pesando; David Short, an actuary and vice-president of Eckler Partners; and Michael Wolfson, an economist with Statistics Canada, who has worked with a number of federal government task forces and committees dealing with pension matters.

An actuarial subcommittee was established, under the direction of John Ilkiw, to undertake an analysis of the costs of alternative inflation protection formulas. The actuaries on the subcommittee were Shiraz Bharmal and David Short from the Research Advisory Committee, along with William Chinery of William M. Mercer Limited.

Specific research topics were identified and undertaken by various experts in universities, government departments, and private practice. These studies, collected as Volumes 1 and 2 of the Research Studies, include the following:

1. Superannuation to Indexation: Employment Pensions in the Public and Private sector in Canada, 1870 - 1970, by Desmond Morton and Margaret McCallum;
2. Pension Plans in Ontario: A Statistical Overview, by Michael Wolfson;
3. Inflation Protection and Interprovincial Relations, by David Lametti;
4. Assessment of Alternative Formulas for Delivering Inflation Protection, by James E. Pesando;

5. Inflation Protection and Economic Security in Retirement, by Frank T. Denton and Byron G. Spencer;
6. Pension Funding Assumptions and Pension Indexation, by Keith P. Sharp;
7. Financial Accounting Standards and the Indexing of Pensions, by T. Ross Archibald and Darroch A. Robertson;
8. Income Taxation and Retirement Saving, by Robert Couzin;
9. The Impact of Tax Regulations on the Design of Inflation Protection, by Nicholas J.M. Simmons;
10. The Potential Impact of Mandated Inflation Protection on Capital Markets, by Keith P. Ambachtsheer;
11. Financial Instruments that may Assist in the Provision of Inflation Protection, by Jeffrey Trossman and James E. Pesando;
12. Market Shifting of the Costs of Inflation Protection, by Jeffrey Trossman;
13. The Development of Funding Surpluses in Canadian Pension Plans, by Frank Livsey and David A. Short;
14. The Use of Surpluses in Pension Plans Operating in Ontario, by Donovan Waters;
15. Legal Position in Ontario on Withdrawals of Surpluses, by Ralph E. Scane;
16. An Analysis of Ontario Law with Respect to Surplus in Pension Plans, by Raymond Koskie;
17. Surplus Issues Pertaining to the New Pension Benefits Act, Section 80, by Donald J. M. Brown;
18. Pension Plan Surpluses and the Law: Finding a Path for Reform, by Bernard Adell; and
19. Pension Benefits and their Adjustment, the Experience in Five Countries, by Mildred J. Morton.

The 'cost study' of alternative inflation protection formulas by John Ilkiw and the actuarial subcommittee is set out in Volume 3 of the Research Studies.

In April 1987 the Task Force publicly called for and received submissions from interested individuals and groups. (Submissions are listed in an Appendix.) Public hearings were held between June 26 and July 10, 1987, where persons who had submitted written briefs were given the opportunity to elaborate upon their positions. The Task Force also met with several groups of senior citizens in order to discuss employment pension issues and to see how they were coping with some of the problems caused by inflation.

Finally a two-day symposium was held on July 15 and 16, 1987, to elicit opinions on the research in progress. Those attending included many of the original group of pension experts who had assisted us at the February symposium. The discussion helped pinpoint areas needing further clarification and research.

The Task Force continued to explore the issues for the remainder of the summer months, and in the autumn, with final or near-final drafts of the research projects in hand, began the process of attempting to reach conclusions on these very complex questions.

We are grateful to all of the above-mentioned persons for their assistance. In particular, we want to thank David Conklin, who played a crucial role in all aspects of the work of the Task Force, from the initial research to the final drafting of the report. We are also appreciative of the important contribution made by Lucy Fromstein, our Executive Assistant, in organizing the many details of our endeavour, including the production of the report. Larry MacDonald acted as our editorial consultant. We were also fortunate in having two excellent law students to assist us over the summer. David Lametti, now in his third year at McGill Law School, and Jeffrey Trossman, now in his second year at the University of Toronto Law School, made an extremely valuable contribution to our research and to the final report. Others we would specifically like to mention are Maureen Hay, Wanda Roy, and Sandra Spencer, who were principally responsible for the word processing of our report, and John Eleen, who assisted us at an early stage in examining the needs of the elderly.

We also received considerable assistance on various aspects of our report from Robert Baldwin, Director of Research, Canadian Labour Congress; Michael Cohen, Director, Pension Benefits Division, Office of the Superintendent of Financial Institutions; Dr. Peter Cornell, Cornell & Associates; Laurence Coward, William M. Mercer Ltd.; N.M. Hodson, Clarkson Gordon; Paul McCrossan, MP; and Don Ezra, Director, Frank Russell Canada.

Officials in the Ministry of Financial Institutions, in particular Bryan Davies, the Deputy Minister; Dan Rivet, the Executive Co-ordinator; Julie Jai, Manager, Policy Co-ordination; and John Kruger, the Chairman of the Pension Commission of Ontario, and his staff, were always helpful in meeting our needs, answering our requests for information, and giving us insights into possible solutions to the questions facing us. We are also grateful for the help of Jerry Cooper, Senior Solicitor with the Ministry of Consumer and Commercial Relations; Ethel M. McLellan, the Chairman of the Public Sector Advisory Board, and her staff.

III HISTORY AND DEVELOPMENT OF EMPLOYMENT PENSION PLANS IN CANADA*

As Desmond Morton and Margaret McCallum write, 'Neither old age nor pensions are novelties'. In pre-industrial, rural Canada -- as elsewhere -- the family unit was the primary vehicle for providing old age security. People worked as long as possible, and when they could no longer do so, their families provided for them. Religious institutions, local authorities, and private charities provided some measure of relief when the family unit fell short as a support mechanism. An urban and industrial society required some form of organized communal institution to perform a similar function as the self-contained rural family unit began to break down and was no longer able to care for the aged. Moreover, the need for such institutions has been reinforced by life expectancies that are much longer today than they were in pre-industrial rural Canada.

Until the turn of the century in Canada, provisions made for old age could hardly be called a retirement income system. The doctrine of individual responsibility helped to explain this slow growth of pension programs. Moreover, the shorter life expectancy meant that expenditures during retirement were not as significant as they have become in recent years. Those pension plans that did come into existence were the result of a desire on the part of employers to reward loyal and long-standing service.

The most notable early example of this reward motive was the military pension. British soldiers, especially those in the colonies, were offered superannuation in old age in exchange for enduring the privations and discipline of military life. By 1860, railways had followed the military model, to ensure the loyalty of a large number of employees spread over a large geographical area.

---

* *In this section, we are relying heavily on a background paper prepared for the Task Force by Professor Desmond E. Morton and Margaret McCallum and included in Volume 1 of the Research Studies.*

Another important factor enticing employers to provide pension plans was the desire to enhance worker efficiency. The federal civil service, for example, could be made more efficient through the Superannuation Act of 1870 because older, inefficient workers could be induced to retire and be replaced by new blood. Pension plans would also create an attitude of loyalty among workers. Further, the threat of cancellation of benefits provided voluntarily by employers could be used as a weapon during labour disputes.

Government annuities, originally suggested by a federal government Royal Commission in 1889, were eventually offered in 1908 to promote habits of thrift and to provide some type of substitute for private pensions to the majority who were not covered. But these government annuities were not widely used. Their disappointing results may have been a factor in the renewed push for an old age pension plan.

The First World War saw a new dedication to efficient and systematic business techniques. This new perspective led to the introduction of pension plans by many larger corporations in the 1920s. Once again, pension plans were created to further a company's corporate goals of inspiring loyalty and co-operation among employees, raising morale and efficiency, cutting labour turnover, and inducing the retirement of older workers. In general, the introduction of pension plans helped to reduce labour strife. In 1919, the worst year for strikes in Canadian history, one corporate official explained that a pension plan 'is not philanthropy and it is not benevolence: it is a cold-blooded business proposition'.[2] Group life insurance plans also emerged during this period as another private sector means of providing for old age.

Pressure was mounting for social reform. In 1919 the Federal Royal Commission on Industrial Relations recommended a system of state social insurance for those unable to work for a variety of reasons, including old age. The result was the Old Age Pensions Act, assented to in 1927, which provided a means tested pension for those over age 70.

By 1922 the provinces of Ontario, Quebec, British Columbia, and Alberta had public sector employee plans, most of which required employee contributions.

Teachers were among the earliest beneficiaries of employment pension plans: by 1930 most provinces had some form of teacher superannuation.

The growing ‘corporate welfarism’ of the 1920s that had led to the development of some private employment pension plans was an early casualty of the Great Depression. Pension benefits in many plans were reduced or cut. The times also brought a renewed interest in government-sponsored annuities, though the private pension industry, especially the insurance sector, was opposed to subsidized government competition. This lobby was eventually successful in eliminating government-sponsored annuities, which were phased out between 1948 and 1967. In the inter-war years employment pension plans were not widespread enough to provide adequate retirement income. In 1937, fewer than 8 per cent of Canadian businesses had pension plans. Indeed, in spite of the Old Age Pension Act, 1927, 70 per cent of Canadians had no old age income protection whatsoever.

Another important development came in 1919, when the federal government decided that pension plan contributions would not be taxed under the Income War Tax Act. This became a significant incentive to create pensions when corporate profits rose during the post-war years. More important, it caused the tax department to partially regulate an area previously unregulated. As Morton and McCallum conclude: ‘The war years helped determine that Canada’s occupational pension system would be built on a patchwork of private plans, administered by trustees chosen by the employer or by trust and insurance companies and regulated, almost accidentally, by federal tax collectors’.

Tax regulations were used to shape pension plan designs, especially in the 1940s.[3] However, these tax policies came under attack because their social objectives had little to do with tax regulation and because, by influencing pension plan design, the federal government was encroaching upon the constitutional powers of the provinces. Consequently, beginning in the mid-1950s, there was a gradual withdrawal of indirect federal regulation by way of the Income Tax Act. Federal control was narrowed to matters relating to benefit levels, funding methods, and contribution levels necessary to make a plan tax-exempt. The withdrawal of the tax department regulators was followed by new rules created by provincial pension administrators in the 1960s.

Perhaps the major trend emerging from the Second World War was the dramatic growth of unionization and institutionalization of collective bargaining. Pensions became increasingly subject to the collective bargaining process. In the United States, a judicial decision in 1948 held that pensions were part of the wage package and therefore subject to negotiation.[4] In Canada, Local 200 of the UAW was able to establish the same principle with the Ford Motor Co. in its 1950 settlement. The principle was adhered to in later settlements. With unionization, the basic assumptions justifying pension plans were slowly changing. In the 1920s, corporate welfare plans had been management's business; the 1950 Ford negotiations established -- to the unions at least -- that pensions were part of the collective bargaining process. In the words of Morton and McCallum: 'Pensions were no longer rewards to faithful employees; unions insisted they were an integral part of the compensation package.'

In the 1960s, provincial governments began to regulate employment pension plans. The original Ontario Pension Benefits Act was passed in 1963 and was the first provincial legislation in Canada directly regulating private pensions. As revised, the Act came into effect on January 1, 1965, and was followed by similar Acts in other jurisdictions. These Acts had several objectives. They ensured that pension plans were adequately funded and funds were safeguarded from speculative investments. They required pensions to be vested after certain age and service qualifications were met, and they also tried to foster pension portability.

Public pensions were becoming an expanded part of the overall pension picture. In 1927, as previously noted, the Old Age Security Act introduced a means-tested old age pension for those over age 70. In 1952, the means test was removed for those over 70, though it remained (until 1967) for those between ages 65 and 70.

The Canada Pension Plan (CPP) [and the Quebec Pension Plan (QPP) in that province] was introduced in 1965, became effective in 1967, and provided full benefits in 1977. (A ten-year transition period was used to help build up an initial fund for the plan.) The CPP was a contributory pension plan that eventually became fully indexed for all its members. The federal Guaranteed Income Supplement (GIS) and the Ontario Guaranteed Annual Income System (GAINS) provided additional assistance to low-income seniors.

The CPP had a profound effect on the evolution of private plans, particularly in Ontario. The Ontario Pension Benefits Act, as originally contemplated, contained a provision that all employers with more than fifteen employees would be required to have a pension plan. When the CPP compromise was reached in 1964, this provision was dropped from the Act. Since Ontario employers now had to contribute to the national plan, it was thought to be too onerous to require them to have their own pension plans as well. Without the Canada Pension Plan, no doubt more private pension plans would have existed in Ontario, especially among smaller employers.

The basic structure of the Canadian retirement income system was now ostensibly complete. Minimum flat government pensions (OAS), along with a mandatory income-related contributory employment plan (the CPP), were to be supplemented by private pension plans and private savings in vehicles such as RRSPs (first introduced in 1957). As Morton and McCallum conclude: 'Provision for income security in old age in Canada is no longer a responsibility left to the individual, the family or even the employer. It is a burden shared by an entire community'.

The real expansion of private pensions occurred after the Second World War. By 1984 there were over 17,000 employment pension plans in Canada, covering over 4.5 million workers. This marked growth in employment pension plans has increased pressure to reform the retirement income system.

The last decade has witnessed an intensive pension reform debate. The complete retirement picture, whose evolution we have just outlined, was seen to have many shortcomings. Reform issues included the adequacy of retirement income, the extent of private pension coverage, the continued concern over lack of portability, lengthy vesting periods, the impact of the pension system on women, the difference in pension levels between public sector and private sector employees, the adequacy of funding for private and government pensions, mandatory retirement practices and entitlement ages, and -- what is most relevant for the purpose of our present inquiry -- the erosion of pension benefits caused by inflation. With these problems identified, pension reform became the subject of many studies undertaken by various governments and private organizations. The manner in which these studies approached inflation protection is dealt with in Chapter 4.

Consistency in pension rules between provinces is another issue affecting pension reform. Most private pensions have traditionally fallen under the jurisdiction of the provinces and have therefore been subject to differing provincial regulations and standards. Two jurisdictions, British Columbia and Prince Edward Island, have no regulatory provisions in place. From the perspective of plan sponsors who might operate in more than one province, and of employees who today are very mobile, uniform pension legislation across Canada is a desirable goal that enhances portability of benefits for employees and simplicity in administration for employers.

One of the most significant forces in promoting the uniformity of pension legislation has been the Canadian Association of Pension Supervisory Authorities, more often known by its shortened title, CAPSA.[5] Established in 1974, CAPSA is a body composed of senior pension regulators from across the country. Its primary objective was to work steadily towards the introduction of uniform pension regulations and legislation across the country. CAPSA's main contribution to the pension reform process was a consensus document, published in 1982, entitled 'A Consensus for Pension Reform'. With the exception of its inflation protection proposal, the CAPSA recommendations formed the basis for a consensus position achieved by the Working Group of federal-provincial officials in 1984. The consensus reforms have addressed some of the concerns regarding private sector pensions, especially with respect to portability, vesting, and better treatment of women through improved spousal provisions. The uniformity in the actual legislation, however, falls short of what was anticipated. The Acts vary in major items such as vesting rules and survivors' benefits.

Inflation protection was omitted from the Federal-Provincial Consensus because no agreement among the various jurisdictions could be reached. The previous CAPSA position, the so-called excess earnings approach, sparked much debate, but was not widely accepted and was increasingly ignored even by CAPSA itself.

The province of Ontario has always maintained an important leadership role in the pension reform debate. The Royal Commission on the Status of Pensions in Ontario published a detailed ten-volume study on pension reform (the Haley Report) in 1980 and 1981. In 1982, a legislative committee, the Ontario Select Committee on Pensions, reviewed the reform proposals contained in the Haley Report. The government White Paper, Ontario's Proposals for Pension Reform, published in 1984, was one of the focal points of discussion for the Federal-Provincial Working Group. And within CAPSA and the Working Group, Ontario's representatives have played key roles.

The Ontario Pension Benefits Act, 1987, the federal Pension Benefits Standards Act, 1985 (PBSA), and various provincial Acts are, to varying degrees, the products of the reform discussions of the last decade. Other jurisdictions which had participated in developing the Consensus in the Federal-Provincial Working Group will likely amend their respective Acts to conform where necessary to the Consensus. What remains to be tackled is the issue of inflation protection, one of the first reform issues to be identified, but perhaps the most contentious and complex.

NOTES

1. Re Collins and Pension Commission of Ontario (1986), 56 O.R. (2d) 274 (Divisional Court).

2. Cited in the Report of the Royal Commission on Industrial Relations (1919), at p. 109.

3. H.D. Clarke, 'The Development of the Retirement Income System in Canada', (1979) in Volume II of the Report of the Task Force on Retirement Income Policy to the Government of Canada, at p. 1-4.

4. Inland Steel v. National Labor Relations Board, 170 F.2d 247 (7th Cir., 1948).

5. For a discussion of CAPSA, see David Lametti's study in the Research Studies, Volume 1, 'Inflation Protection and Interprovincial Relations'.

TABLE 1.1

EROSION OF THE REAL VALUE OF PENSION PLANS

(i)

Year of Retirement		1965
Inflation Protection		
Year	None	40% of CPI
(Initial)	1,000	1,000
1965	976	986
1966	943	965
1967	910	944
1968	874	922
1969	836	898
1970	810	880
1971	787	865
1972	751	841
1973	697	804
1974	629	755
1975	568	709
1976	528	678
1977	489	647
1978	449	614
1979	411	583
1980	373	549
1981	332	511
1982	230	480
1983	283	464
1984	271	452
1985	261	441

(ii)

Year of Retirement		1980
Inflation Protection		
Year	None	40% of CPI
(Initial)	1,000	1,000
1980	908	942
1981	807	877
1982	728	823
1983	689	796
1984	660	775
1985	634	757

SOURCE: Data provided by Dr. J.E. Pesando

TABLE 1.2

LIFE EXPECTANCIES OF THE OLDER POPULATION, 1931-1981

	Expected years of life remaining at a given age					
	60	65	70	75	80	85
Men						
1931	15.9	12.7	9.8	7.3	5.4	3.9
1941	15.8	12.6	9.8	7.4	5.5	4.0
1951	16.2	13.1	10.3	7.8	5.9	4.5
1961	16.2	13.0	10.3	7.9	6.0	4.4
1971	16.6	13.4	10.6	8.2	6.2	4.5
1981	17.8	14.4	11.4	8.8	6.7	5.0
Women						
1931	16.9	13.5	10.4	7.7	5.7	4.2
1941	17.6	14.0	10.8	8.1	5.9	4.2
1951	18.6	14.9	11.6	8.7	6.4	4.7
1961	19.7	15.9	12.4	9.3	6.8	4.8
1971	21.5	17.6	14.0	10.7	8.0	5.8
1981	22.7	18.7	15.0	11.7	8.8	6.4

NOTE: Life expectancies are taken from various issues of Ontario life tables prepared by Statistics Canada.

SOURCE: Denton and Spencer, 'Inflation Protection and Economic Security in Retirement', a study in the Research Studies, Volume 1.

CHAPTER 2

Coverage and Types of Plans [*]

I INTRODUCTION

The Canadian retirement income system is composed of three levels or tiers:

> Old age pension: The first level consists of a flat, guaranteed universal old age pension -- the Old Age Security (OAS) -- along with income-tested income supplements, such as the federal Guaranteed Income Supplement (GIS) and the Ontario Guaranteed Annual Income System (GAINS). These benefits are discussed in Chapter 3.
>
> Public employment pension: The second level consists of the Canada Pension Plan (CPP) and its counterpart in Quebec, the Quebec Pension Plan (QPP), which are earnings-related and apply to almost all Canadian employees.
>
> Other savings vehicles: The third level consists of private employment pension plans, Registered Retirement Savings Plans (RRSPs), and private savings.

These three levels together compose the broader context of income security for the elderly in Canada. Within this context the central concern and mandate of the Task Force is the third level, and in particular the question of inflation protection for private employment pension plans. In this chapter we identify the different types of employment pension plans and the groups of people now covered by them.

---

[*] *This chapter relies on the background study by Dr. Michael Wolfson, Director of the Social and Economic Studies Division, Statistics Canada, entitled 'Pension Plans in Ontario: A Statistical Overview', contained in Volume 1 of the Research Studies.*

A The Pension Picture in Canada

In 1984 more than 4.5 million Canadians were enrolled in employer-sponsored pension arrangements (Table 2.1). These plans received annual contributions from employers and employees of over $10 billion in 1984, or about $2,300 per person on average. These data include not only private sector plans but also public sector plans, such as the plans of governments, the Armed Forces, the RCMP, federal boards, and Crown corporations.

In addition to employer-sponsored pension plans, RRSPs now play an important part in pension arrangements. According to Statistics Canada, since the Income Tax Act was amended in 1957 to allow individuals to make tax-deductible contributions to personal retirement savings plans, RRSPs have experienced extraordinary growth in both numbers of contributors and aggregate amounts contributed. Total net annual RRSP premiums have risen from $27.5 million in 1960 to $225 million in 1970 and $3.7 billion by 1980. As Table 2.1 indicates, the amount of net annual contributions had climbed to nearly $5 billion in 1983, even though RRSP limits were frozen from 1976 to 1986. Since 1976, in fact, RRSP contributions have exceeded employee contributions to employer-sponsored pension plans. In 1969, fewer than 206,000 individuals contributed an average of $867 per person to RRSPs. By 1983, 2.3 million Canadians contributed to RRSPs, and the average annual contribution was $2,145. (We cannot determine how many of these contributors are also members of employment pension plans.)

Most members of employment pension plans in Canada belong to larger plans (Table 2.2). In 1984, almost 85 per cent of all plan members belonged to plans with more than 500 members, or fewer than 5 per cent of the total number of existing plans. A major component of this population is in large public sector plans, discussed below. The total membership of employment pension plans is growing, but at about 4.6 million members in 1984 still comprised only 37 per cent of the total labour force, (i.e. including the self-employed and the unemployed) and 47 per cent of all employed paid workers (Table 2.3).

Plan membership is split fairly evenly between the public and private sectors, though public sector plans tend to be larger (Table 2.4). In 1984, the roughly 2 million members of public sector plans covered nearly 45 per cent of all members of employment pension plans. According to Statistics Canada, of the 23 plans with more than 30,000 members, 15 were in the public sector and covered nearly 1.5 million members representing 72 per cent of all public plan members and 32 per cent of all plan participants. The remaining eight private sector plans with over 30,000 members had fewer than 15 per cent of the private sector participants and 8 per cent of the total number of pension plan members.

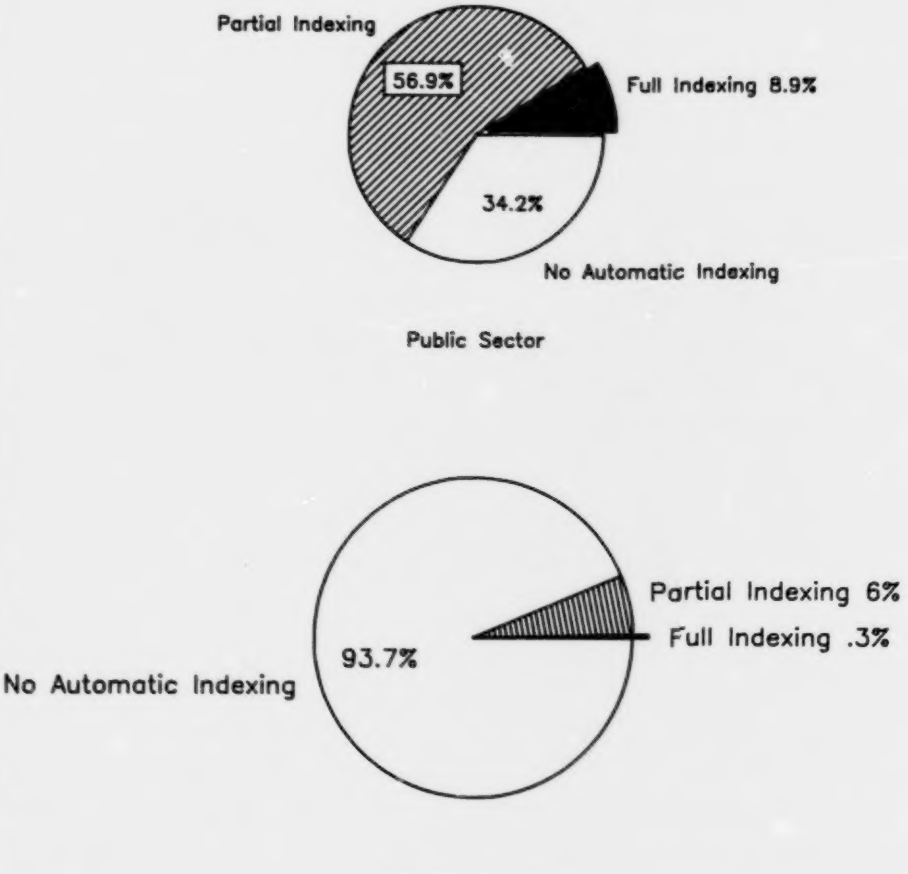
Only 5 per cent of Canadian pension plans contained some form of automatic inflation protection in 1984 (Table 2.5). These relatively few plans were large ones, however, representing almost 1.5 million members, or about one in three of all plan members. This is clearly explained by the fact that nearly two-thirds of the roughly 2 million members of public sector plans received some form of automatic indexation (Figure 2.1). In contrast, only 6 per cent of the 2.5 million members of private sector plans had some form of automatic indexation, (about 160,000 members).

B Employment Pension Plans in Ontario

In 1984, 39 per cent of Canadian plan members, about 1.8 million persons, were in Ontario alone, representing 39 per cent of Ontario's total labour force and 48 per cent of the province's employed paid workers (Tables 2.6 and 2.7). A greater proportion of Canadian private sector members (44 per cent) than Canadian public sector members (33 per cent) work in Ontario.

For the purposes of this Task Force, the Ontario employment pension universe must be broken down in terms of jurisdiction. In 1984, of the 1.8 million plan members in Ontario, 167,800 fell within federal jurisdiction (Table 2.8). These members include employees of federal Crown corporations and other companies within federal jurisdiction such as interprovincial transportation firms, banks, and communications companies. There were another 160,124

FIGURE 2.1
Automatic Inflation Protection in Canada, 1984
(Proportions of all pension plan members)



SOURCE: Table 2.5

Ontario members who worked for employers exempt from legislation, usually because their pensions are regulated in a specific federal statute, such as federal government employees and Members of Parliament. Subtracting these two groups in 1984 left 8,752 plans with 1,458,831 Ontario members falling under the legislative jurisdiction of the province of Ontario and therefore subject to any legislation resulting from this Task Force's recommendations.

C The Administration of Private Employment Pension Plans

In general, the pension legislation which governs an employee's pension credits is the legislation of the province where the plan member is employed. Therefore, all the 1.5 million members identified above are governed by Ontario legislation.

Since employers span different Canadian jurisdictions, it is not surprising that their pension plans do so as well. An employer is only required to register a pension plan with the regulating authority -- a provincial pension commission or the federal Office of the Superintendent of Financial Institutions if in the 'federal' category discussed above -- of the jurisdiction where the largest number of its members are employed. Ontario rules will apply to all members working in Ontario, except federal employees and industries within federal jurisdiction.

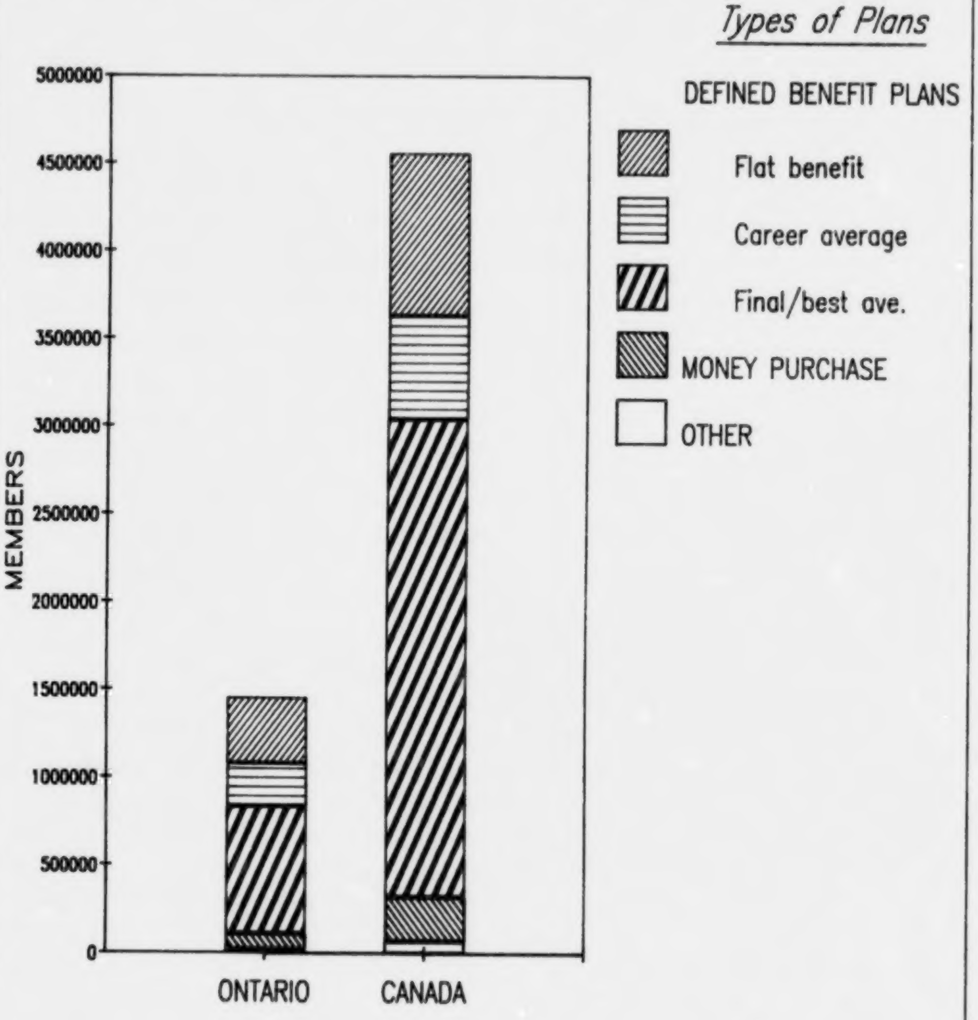
II TYPES OF EMPLOYMENT PENSION PLANS

Having focused on the employment pension universe in Canada and in Ontario, we now describe the various types of employment plans that exist in Canada, and particularly in Ontario (Figure 2.2).

A Defined Benefit Plans

In a defined benefit plan, the amount of the member's pension benefit is specified. It is usually related to previous earnings and years of service by a formula; or

FIGURE 2.2
Membership of Employment Pension Plans in Ontario and Canada, 1984



SOURCE: Tables 2.9 and 2.10

it may be defined by a fixed dollar amount for each month or year of service. This benefit is promised by the plan sponsor, who then builds up a fund to fulfil the promise.

Across Canada in 1984, defined benefit plans accounted for 4.2 million members, or 93 per cent of the total membership (Table 2.9). Defined benefit plans can be broken down into three main categories: flat benefit, career average, and final or best average plans.

Flat benefit:

Flat benefit formulas are commonly found in union-negotiated plans. In 1984, flat benefit plans accounted for over 900,000 members in Canada, or 20 per cent of plan members. In Ontario, there were 378,962 members in all types of flat benefit plans (Categories 1, 2, 12, and 13 of Table 2.10) representing 26 per cent of all plan members. (Multi-employer flat benefit plans, which are included in this figure, are discussed specifically below.) In a flat benefit plan, a dollar amount of pension to be credited for each year or month of service is specified in the plan agreement. For example, a plan might specify a $20 benefit per month per year of service, which may be periodically increased, particularly through union negotiations. From 1970 to 1984, flat benefit plans in Ontario grew by two-thirds in total membership and from 24 per cent of all plan members to 26 per cent (Table 2.10).

Career average:

A career average plan is a defined benefit arrangement that applies a unit benefit (eg. 2% of annual earnings per year of service) to the earnings of the member in each year of service, and not to the final or best average earnings. In other words, the pension benefit is calculated on the basis of the participant's average earnings over the entire period of membership in the plan. Career average plans, unless updated to compensate for the effects of inflation, obviously do not take into account pre-retirement inflation. Pension benefits will have eroded even before retirement since the real value of earnings will decline over an employee's lifetime. Therefore, employees generally do not consider career average plans to be as desirable as final or best average plans. In practice, however, most career average plans, like flat benefit plans, have been updated periodically.

Across Canada in 1984, career average plans had 592,030 members, or 13 per cent of all members (Table 2.9). At the same time in Ontario, career average plans had 244,088 members, or 17 per cent of all members (Table 2.10, Categories 5, 6, and 11). Whereas flat benefit plan membership grew from 1970 to 1984, career average plan membership declined by nearly one-quarter and, as a percentage of all plan members, from 33 per cent to only 17 per cent. The drop was most pronounced in public career average plans, with a decrease in private contributory plan members about balanced by an increase in private non-contributory plan members.

Final or Best Average:

Final or best average plans are similar. A final average plan applies a unit benefit (such as 2% per year of service) to the average earnings of the member in a specified final period of service, for example the last three years of service. If only the last year of service is used for the calculation base, it is called a final pay plan. A best average plan uses as a base a specified number of years in which the earnings were the greatest. In reality, an employee's highest-earning years are usually his or her last years, hence the similarity between final and best average plans. Further, since long-run wages incorporate inflationary increases in the economy, an employee is well insulated from the erosion of his or her pension base in pre-retirement years.

Across Canada in 1984, these types of defined benefit plans accounted for 2.7 million plan members or 60 per cent of all plan members (Table 2.9). At the same time in Ontario this type of plan had 723,955 members, or half of all plan members (Table 2.10, Categories 3, 4, 7, and 8). From 1970 to 1984, membership in such plans more than doubled and grew as a proportion of all members from one-third to one-half.

B Money Purchase (Defined Contribution) Plans

In a money purchase plan, frequently called a defined contribution plan, the pension agreement specifies the contributions to be made by the employer and the employees rather than the actual benefit. The accumulated contributions to the plan, and the investment return generated by the fund it creates, are generally used to purchase an annuity. The risk of the adequacy or inadequacy of the annuity purchasable at retirement is borne by the employee: the employee bears the investment risk before retirement, and after retirement through the purchase price used when converting to a pension.

Across Canada in 1984, money purchase plans accounted for more than 250,000 members or nearly 6 per cent of all plan members (Table 2.9). In Ontario in 1984, money purchase plans had nearly 80,000 members, or 5 per cent of all plan members. There are a large number of such plans covering a relatively small number of employees. Despite a decline in the number of such plans after 1970, their membership grew rapidly in the 1970s and then fell somewhat, so that by 1984 it was 50 per cent greater than in 1970 (Table 2.10). Across Canada such plans increased in both numbers and membership between 1980 and 1984 (Table 2.9).

C Single and Multi-Employer Pension Plans

All plans can be classified according to the number of employers the plan involves. Most are single-employer plans, in which only one employer (or related employers not at arm's length) contributes to the fund for the benefit of employees of the same company.

In some plans, however, more than one employer is involved. In the usual private sector multi-employer pension plan (MEPP),[1] more than one employer contributes to a single pension fund, through a defined contribution negotiated by a union (eg. 18 cents per hour for each hour worked by an employee). The fund is normally then jointly administered by trustees appointed by the employees and the employers. The trustees' aim is to provide a defined benefit for the employees, though benefits can in fact be reduced where the inadequacy of the funds necessitates such a decrease. MEPPs are usually conservatively funded, however, and so the danger of inadequacy is not great. In most MEPPs, all assets of the fund, including any actuarial surplus, are used for the benefit of the employees. In general, therefore, MEPPs have elements of both defined benefit and money purchase plans.

(In the public sector there are a number of plans that cover more than one employer and are sometimes called MEPPs, such as OMERS, the municipal employees' plan, or HOOPP, the hospital employees plan. However, these public sector MEPPs do not function in the same way as a private sector MEPP. Our comments focus on private sector MEPPs and may not always apply to public sector MEPPs.)

MEPPs are most often found in industries where many small firms use a single labour market pool. Central plans run by trustees are therefore essential to financial and administrative economies of scale. Employment periods are short, resulting in a high turnover of employees. With small firm size, there is also a high turnover of employers as well. Industries where MEPPs are common include construction, transportation, printing, service and retail, entertainment, food processing, aerospace, and textiles. There is also a tendency to have strong labour unions in some of these industries, with resulting uniformity in wages, benefits, and working conditions across different employers.

Across Canada in 1984, there were 295 MEPPs, representing 1.7 per cent of all pension plans (Table 2.4). These plans covered 628,268 members, or 14 per cent of the 4.6 million plan members in Canada. In Ontario in 1984, MEPPs had 113,291 members (Table 2.10) or about 8 per cent of all plan members. MEPP membership in Ontario grew more than five times from 1970 to 1984, with the proportion of total plan members rising from 2 to 8 per cent.

D Contributory and Non-Contributory Plans

A pension plan that requires both employers and employees to make contributions by payroll deductions in order to qualify for benefits is termed a contributory plan. If all contributions are made by the employer, with no contributions required by employees, the plan is called non-contributory.

According to Statistics Canada data for 1984, 58 per cent of the 17,711 pension plans in Canada were contributory, comprising 69 per cent of all plan members. The same data show that 95 per cent of public sector plans were contributory, accounting for 99 per cent of all public sector plan members, whereas only 57 per cent of private sector plans were contributory, representing 46 per cent of all private sector plan members.

III SUPERIORITY OF DEFINED BENEFIT PLANS

As discussed above, defined benefit plans provide annual pension payments which are defined in dollar terms, and which may be related to income levels. Money purchase or defined contribution plans, in contrast, produce pension payments which vary depending upon both pre-retirement investment experience and annuity prices at the time of retirement. Pension plan participants generally prefer defined benefit plans over defined contribution plans. In a 1984 Gallup Poll,[2] 65 per cent of surveyed pension plan participants preferred defined benefit plans. As we have seen, the vast majority of members of employment pension plans (93 per cent) are in defined benefit plans. Moreover, the terms of reference asked the Task Force to consider 'the importance of maintaining and expanding the private pension system and, in particular, defined benefit plans' (emphasis added).

The most important advantage of final average defined benefit plans, which account for one-half of all plan members in Ontario, is that they generally provide a pension whose dollar amount has a predictable relationship with income levels. The other two types of defined benefit plans, flat benefit and career average, do not formally connect pension payments to income levels just prior to retirement, but their benefit levels are usually updated regularly to keep pace with salary improvements.

With money purchase plans, on the other hand, the pension amount (expressed as a percentage of final salary per year of service) is unpredictable. As stated by Peat Marwick, with a money purchase plan, 'there is no way of projecting with any degree of certainty what relationship will exist between an individual's ultimate pension amount and his or her final salary and years of service'.[3] Historical simulations done by Peat Marwick indicate that individuals retiring over the past 50 years from money purchase plans might have received unit benefits (pensions expressed as a percentage of final salary per year of service) varying between 0.7 per cent and 1.8 per cent. Thus, an individual in a money purchase plan is entirely uncertain about how 'rich' a pension he or she actually has. There is a high degree of variability in pension amounts for different generations of retirees.

With a money purchase plan the total amount of funds available at retirement will depend on prices in the stock and bond markets at the time of retirement. Since these prices vary, the total amount of the fund depends on the timing of retirement. Moreover, the amount of annuity that can be purchased with these funds depends on the interest rate prevailing at that time. A person who retires when interest rates are high will be able to purchase a much larger annuity than a person who retires when interest rates are low. These two factors mean that money purchase plans create a substantial uncertainty for the person nearing retirement age, with significant differences in pension being dependent upon the timing of retirements.

Unlike defined benefit plans, money purchase plans place all investment risk on the employee. The employee bears the risk of adverse investment experience before retirement as well as the risk of annuity prices being high at the time of retirement. In a defined benefit plan, on the other hand, this investment risk is borne initially by the plan sponsor, who may of course attempt to pass it on to employees.

Particularly in the case of large employers, it is probably more appropriate for the plan sponsor to bear investment risk. According to Professor Pesando, 'the logic underlying defined benefit plans [is] that plan sponsors are better suited to assuming the risks associated with an uncertain future than are plan members'.[4] For employees, to quote Peat Marwick again, 'financial storms arising in the final years before their retirement may create severe hardships in retirement'. In contrast, 'most plan sponsors can ride out ... fluctuations through the use of various actuarial techniques and by utilizing other financial resources'. In making its recommendations, the Task Force has been cognizant of the advantages of defined benefit plans. We are also aware, however, that the advantages are not as great for an employee who moves frequently from one employer to another and therefore does not have the opportunity to build a long period with one employer at the later stages of his or her career.

IV ARE DEFINED BENEFIT PLANS THREATENED?

Many submissions to the Task Force expressed concern that legislated mandatory inflation protection would reduce the attractiveness of defined benefit plans, particularly from the point of view of plan sponsors.

Sponsors were concerned that pension reforms recently legislated have increased the cost of defined benefit plans, and that mandatory inflation protection might be the 'last straw' inducing them to convert to a money purchase arrangement. The reforms of concern include new vesting and portability rules, in addition to new accounting, reporting, and disclosure requirements. Moreover, proposed federal tax changes, particularly relating to RRSPs, will tend to reduce the relative attractiveness of defined benefit plans.

In the Association of Canadian Pension Management (ACPM) survey of plan sponsors in 1987, about 28 per cent of responding companies said they would convert to money purchase plans if inflation protection were mandated. We are aware that at least one large employer has recently converted from a defined benefit to a defined contribution plan for new employees and that several other large employers are seriously considering such a change. Although the ACPM survey did not specify a particular inflation protection formula, it is likely that most respondents had a relatively 'onerous' formula in mind. An element of retroactivity may also have been contemplated. The less severe the mandated formula, the less likely it is that plan sponsors will convert to money purchase plans. The Task Force sees merit in minimizing the prospect of conversions through a formula which should not be seen as unduly 'onerous'.

At the same time, and without minimizing the significance of this issue, the Task Force is aware of the need to interpret published survey results, as well as submissions, with caution. Those involved in the pension reform debate on either side are well aware of the desire of policy makers to avoid disruptive initiatives. Thus there might be a temptation to exaggerate the extent of probable conversions. In fact there are strong disincentives to terminating existing defined benefit plans. These include potential disruptions in labour-management relations, as well as the administrative costs of conversion. In summary, the Task Force accepts the need to recognize the potential for the conversion of defined benefit plans to money purchase plans or group RRSPs, while at the same time recognizing the potential for plan sponsors to exaggerate this concern.

Quite apart from legislated mandatory inflation protection, several independent factors are already tending to discourage the establishment of new defined benefit plans. These include federal tax changes, more rigorous funding requirements, and new accounting rules (see Chapter 7). Also, pension reforms already legislated, especially those related to earlier vesting and minimum employer contributions, might discourage companies from establishing new defined benefit plans. Finally, the controversy about entitlement to actuarial surpluses (see Chapter 13) could be a disincentive to the introduction of defined benefit plans. Given these considerations, the Task Force is sensitive to the concern that its recommendations might tend to discourage the introduction of defined benefit plans as well as the continuation of existing defined benefit plans.

V THE IMPACT OF INFLATION ON INCOME REDISTRIBUTION

The central concern of the Task Force is an issue of fairness or 'equity' affecting members of defined benefit plans: the arbitrary redistribution of income that accompanies inflation.

Without inflation protection, inflation redistributes resources away from retirees in favour of active workers and/or plan sponsors. The higher the inflation rate, the lower is the 'real' purchasing power of the pension. Thus, retirees with unindexed benefits are adversely affected by inflation. At the same time, the cost of providing a fixed dollar benefit declines as inflation increases.[5] These 'savings' are available either to upgrade benefits for currently active workers and/or to reduce contribution rates for employers and/or employees, or to improve other elements of the compensation package. In some instances, sponsors have made voluntary, or, as they are usually referred to in the pension industry, 'ad hoc', improvements to pensions being paid (see Chapter

3). Generally, however, there is nothing to prevent a redistribution of resources away from retirees when inflation occurs and pension payments are not indexed.[6]

The Task Force considers such a redistribution to be fundamentally inequitable. There is no justification for retirees to suffer for the benefit of active workers or plan sponsors whenever there is inflation. This is particularly so in light of the fact that pensioners are probably the least capable of coping with the effects of inflation. One motivation for mandatory inflation protection is to prevent this redistribution. Sponsors who have already been making regular and significant ad hoc improvements to pensions recognize this inequity and have already been compensating pensioners to some degree for their inflationary losses. For sponsors who have not been making ad hoc adjustments, legislated mandatory inflation protection would help put an end to future windfall gains at the expense of retirees. Active members in final average plans or other forms of defined benefit plans that are regularly upgraded will not suffer to the same extent because wages tend to rise with inflation.

Mandatory inflation protection redistributes the impact of the costs of inflation which are currently being disproportionately borne by pensioners. As stated in one submission to the Task Force, 'what we are really talking about is the distribution of these costs'.[7] Moreover, as Don Ezra has suggested, in the absence of inflation protection 'retired employees have lost ground to active employees, who become in a sense the villains of the piece'.[8] It is wrong for pensioners to carry an unfair share of the burden imposed by inflation.

NOTES

1. We are grateful to William A. Rivers of Martin E. Segal Company for his assistance in helping us understand multi-employer pension plans.

2. A National Public Survey of Canadian Attitudes on Pensions and Pension Reform, conducted by The Canadian Gallup Poll Ltd. for Allenvest Group Limited, November 1984, Executive Summary, at p. 28. See also the submission to the Task Force of Allenvest, Ltd., May, 1987.

3. Peat Marwick Benefits Letter, February, 1986.

4. James E. Pesando, 'The Indexing of Private Pensions: An Economist's Perspective on the Current Debate', Canadian Public Policy, winter 1979, p. 80, at p. 89.

5. John H. Ilkiw, Inflation, Indexation, Income Redistribution and Pension Plan Valuation, March 14, 1979, at p. 5.

6. This redistribution is well illustrated in the numerical examples set out in D. Don Ezra, The Struggle for Pension Fund Wealth (1983), Toronto: Pagurian Press Limited, Chapter 10.

7. Submission of Allenvest Group Limited, supra, note 2.

8. Ezra, supra, note 6, at p. 84. See also the study by Michael C. Wolfson in Volume 1 of the Research Studies entitled 'Pension Plans in Ontario: A Statistical Overview'.

TABLE 2.1

EMPLOYMENT PENSION CONTRIBUTIONS IN CANADA

Comparative statistics, Canada and Quebec plans, employer-sponsored pension plans and Registered Retirement Savings Plans, 1983

Retirement program	Number of contributors	Percentage of labour force	Total annual contributions $ 000
C/QPP	10,722,472	87.4	4,586,000
Employer-sponsored pension plans	*4,564,623	37.2	10,486,375
RRSP	2,329,201	19.0	4,997,187

* Includes non-contributory plan members.

SOURCE: Statistics Canada, Pension Plans in Canada 1984, p. 9.

TABLE 2.2

PENSION PLAN SIZE IN CANADA

Pension plans and members by membership size group, 1970 and 1984.

Membership size group	1970				1984			
	Plans		Members		Plans		Members	
	No.	%	No.	%	No.	%	No.	%
Less than 5	6,604	41.0	14,429	0.5	6,221	35.1	13,572	0.3
5 - 14	4,008	24.8	33,739	1.2	3,670	20.7	31,515	0.6
15 - 99	3,674	22.8	142,892	5.1	4,914	27.8	196,019	4.3
100 - 499	1,266	7.8	273,521	9.7	2,041	11.5	445,916	9.8
500 - 1,909	406	2.5	404,638	14.3	586	3.3	563,164	12.3
2,000 and over	179	1.1	1,953,117	69.2	279	1.5	3,314,437	72.6
TOTAL	16,137	100.0	2,822,336	100.0	17,711	100.0	4,564,623	100.0

SOURCE: Statistics Canada, Pension Plans in Canada 1984, p.12.

TABLE 2.3

WHO BELONGS TO PENSION PLANS

Proportion of total labour force and paid workers in the labour force covered by pension plans by sex, 1970 and 1984

	Male	Female	Total
1970:			
Number of pension plan members	2,086,846	735,490	2,822,336
Percentage of total labour force	37.4	28.5	34.6
Percentage of all employed paid workers	46.7	32.2	41.8
Percentage of full-time employed paid workers	--	--	--
1984:			
Number of pension plan members	3,039,449	1,525,174	4,564,623
Percentage of total labour force	42.4	30.0	37.2
Percentage of all employed paid workers	54.4	37.1	47.0
Percentage of full-time employed paid workers	58.4	49.1	54.9

NOTE: Labour force data used are annual averages for 1969 and 1983 and include the Armed Forces.

SOURCE: Statistics Canada, Pension Plans in Canada 1984, p. 13.

TABLE 2.4

WHO EMPLOYS CANADIAN PENSION PLAN MEMBERS

Pension plans and members by type of organization of employer, 1984

Type of Organization	Plans		Members					
			Male		Female		Total	
	No.	%	No.	%	No.	%	No.	%
Public sector:								
Municipal governments and enterprises	615	3.5	246,349	8.1	136,227	8.9	382,576	8.4
Provincial governments and enterprises	140	0.8	508,373	16.8	588,461	38.6	1,096,834	24.0
Federal governments and enterprises	43	0.3	399,487	13.2	149,786	9.8	549,273	12.1
Non-Canadian government	5	--	149	--	97	--	246	--
TOTAL	803	4.5	1,154,358	38.0	874,571	57.3	2,028,929	44.5
Private Sector:								
Incorporated companies	14,918	84.2	1,231,077	40.5	488,904	32.1	1,719,981	37.7
Partnerships and sole proprietors	243	1.4	3,785	0.1	3,412	0.2	7,197	0.1
Co-operatives	227	1.3	24,430	0.8	14,194	0.9	38,624	0.8
Associations	671	3.8	13,848	0.4	13,042	0.8	26,890	0.6
Multi-employer agreements	295	1.7	540,074	17.8	88,194	5.8	628,268	13.8
Other	554	3.1	71,877	2.4	42,857	2.8	114,734	2.5
TOTAL	16,908	95.5	1,885,091	62.0	650,603	42.7	2,535,694	55.5
GRAND TOTAL	17,711	100.0	3,039,449	100.0	1,525,174	100.0	4,564,623	100.0

SOURCE: Statistics Canada, Pension Plans in Canada 1984, p. 14.

TABLE 2.5

PROPORTION OF CANADIAN PLANS HAVING AUTOMATIC INFLATION PROTECTION

Automatic escalation of pension benefits in the public and private sectors, showing plans and members, 1984

	Both Sectors				Public Sector				Private Sector			
	Plans		Members		Plans		Members		Plans		Members	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Automatic indexing:												
Full indexing with consumer price index	249	1.4	189,526	4.2	29	3.6	180,841	8.9	220	1.3	8,685	0.3
Partial indexing	588	3.3	1,306,148	28.6	67	8.4	1,154,031	56.9	521	3.1	152,117	6.0
TOTAL	837	4.7	1,495,674	32.8	96	12.0	1,334,872	65.8	741	4.4	160,802	6.3
No automatic indexing	16,874	95.3	3,068,949	67.2	707	88.0	694,057	34.2	16,167	95.6	2,374,892	93.7
GRAND TOTAL	17,711	100.0	4,564,623	100.0	803	100.0	2,028,929	100.0	16,908	100.0	2,535,694	100.0

NOTE: Plans in which employers voluntarily grant 'ad hoc' benefit increases to compensate for inflation are considered not to have automatic indexing and are so classed in this table.

SOURCE: Statistics Canada, Pension Plans in Canada 1984, p. 52.

TABLE 2.6

HOW THE PROVINCES COMPARE IN PENSION PLAN COVERAGE

Proportion of total labour and employed paid workers in the labour force covered by pension plans, by province, 1984

Province and year	Number of plan members	Percentage of total labour force	Percentage of employed paid workers in the labour force
1984:			
Newfoundland	68,080	31.7	43.9
Prince Edward Island	12,620	22.5	30.7
Nova Scotia	134,929	35.5	45.4
New Brunswick	109,234	37.2	48.3
Quebec	1,099,680	35.7	45.8
Ontario	1,786,755	38.9	47.6
Manitoba	186,355	36.4	46.1
Saskatchewan	151,958	32.2	45.1
Alberta	452,927	36.0	45.4
British Columbia	526,613	37.7	48.4
TOTAL	**4,564,623	37.2	47.0

NOTE: Labour force data used are annual averages for 1983 and include the Armed Forces. Total includes plan members in Yukon and Northwest Territories and outside Canada.

SOURCE: Statistics Canada, Pension Plans in Canada 1984, p. 19.

TABLE 2.7

TWO OUT OF FIVE CANADIAN PENSION PLAN MEMBERS LIVE IN ONTARIO

Distribution of the members in the provinces and territories by public and private sector, 1984

	Public Sector		Private Sector		Both Sectors	
Geographic area	No.	%	No.	%	No.	%
Newfoundland	45,970	2.3	22,110	0.9	68,080	1.5
Prince Edward Island	8,796	0.4	3,824	0.2	12,620	0.3
Nova Scotia	82,264	4.1	52,665	2.1	134,929	3.0
New Brunswick	58,173	2.9	51,061	2.0	109,234	2.4
Quebec	532,913	26.3	566,767	22.4	1,099,680	24.1
Ontario	677,386	33.4	1,109,369	43.8	1,786,755	39.1
Manitoba	97,784	4.8	88,571	3.5	186,355	4.1
Saskatchewan	84,596	4.2	67,362	2.7	151,958	3.3
Alberta	213,698	10.5	239,229	9.4	452,927	9.9
British Columbia	205,011	10.1	321,602	12.7	526,613	11.5
Yukon and Northwest Territories	10,595	0.5	3,573	0.1	14,168	0.3
Outside Canada	11,743	0.6	9,561	0.4	21,304	0.5
TOTAL	2,028,929	100.0	2,535,694	100.0	4,564,623	100.0

SOURCE: Statistics Canada, Pension Plans in Canada 1984, p. 20.

TABLE 2.8

SOME ONTARIO PENSION PLANS ARE NOT REGULATED PROVINCIALLY

The Ontario pension plans universe - plans and membership by jurisdiction, 1970 and 1984

Jurisdiction	Plans	Ontario members
1984:		
Plans with Ontario Members	9,107	1,786,755
Ontario*	8,752	1,458,831
Federal Jurisdiction	348	167,800
Exempt from Legislation	7	160,124
1970:		
Plans with Ontario Members	8,685	1,222,116
Ontario*	8,485	967,548
Federal Jurisdiction	194	115,087
Exempt from Legislation	6	139,481

* i.e. not federal jurisdiction and not exempt from legislation.

SOURCE: Michael C. Wolfson, Pension Plans in Ontario: A Statistical Overview, in Research Studies, Volume 1.

TABLE 2.9

DIFFERENT KINDS OF PLANS ACROSS CANADA

Plans and members by type of benefit, all Canada

	1980				1982				1984			
	Plans		Members		Plans		Members		Plans		Members	
Type benefit	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Money purchase (defined contribution)	6,021	41.3	211,405	4.7	5,957	39.1	226,558	4.9	8,613	48.6	252,498	5.5
Defined Benefit Plans:												
Final or best average earnings	2,277	15.6	2,617,813	58.5	3,295	21.6	2,705,432	58.1	3,472	19.6	2,720,709	59.6
Career average earnings	4,505	30.9	603,731	13.5	4,140	27.2	618,886	13.3	3,562	20.1	592,030	13.0
Flat benefit	1,253	8.6	972,739	21.7	1,340	8.8	1,039,335	22.3	1,352	7.6	930,509	20.4
Total defined benefit	8,035	55.1	4,194,283	93.7	8,775	57.6	4,363,653	93.7	8,386	47.3	4,243,248	93.0
Miscellaneous:												
Profit sharing	149	1.0	19,870	0.4	151	1.0	19,175	0.4	417	2.4	16,125	0.4
Composite and other plans	381	2.6	49,871	1.1	349	2.3	48,549	1.0	295	1.7	52,752	1.2
Grand total	14,586	100.0	4,475,429	100.0	15,232	100.0	4,657,935	100.0	17,711	100.0	4,564,623	100.0

SOURCE: Statistics Canada, Pension Plans in Canada 1984, p. 30.

TABLE 2.10

DIFFERENT KINDS OF PLANS IN ONTARIO

Ontario pension plans and members by type of plan

	Number of plans			Ontario members		
	1970	1978	1984	1970	1978	1984
'Pure' Defined Benefit Plan Types						
Private Sector:						
Flat Benefit Non-Contributory						
1. Single-Employer	347	615	700	174,633	231,360	234,036
2. Multi-Employer	22	57	66	21,973	62,731	113,291
Final or Best Average						
3. Contributory	311	684	741	54,869	125,009	137,462
4. Non-contributory	324	577	1,156	54,475	102,230	124,479
Career Average						
5. Contributory	2,357	2,154	1,565	183,011	169,460	154,803
6. Non-contributory	254	364	423	47,883	67,439	74,265
Public Sector, Contributory:						
Final or best average						
7. Non-indexed	19	22	26	220,485	214,150	249,900
8. Indexed	0	3	4	0	215,956	212,095
9. 'Pure' Private Sector Money Purchase and Profit Sharing Plans	4,256	3,461	3,749	58,719	102,576	88,115**
Miscellaneous Plan Types						
10. Composite	205	169	134	15,623	12,841	17,688
11. Career Average, Public Sector	33	23	16	86,194	20,830	15,020
12. Other Flat Benefit, $/Month/Year	83	76	79	28,800	28,198	28,919
13. Other Flat Benefit, $/Month	93	63	30	5,573	3,953	2,716
14. Level Percent of Earnings	27	11	3	1,262	332	43
15. Public Sector, Non-Contributory, Final average or Average Best	*	*	*	*	*	*
16. Other Unit Benefit, Private Sector	28	*	4	53	*	8
17. Not Flat Benefit, Multi-Employer	*	*	*	*	*	*
18. Not Elsewhere Classified	124	91	52	13,468	5,227	4,812
All Plans	8,485	8,378	8,752	967,548	1,364,178	1,458,831

* Fewer than three pension plans

** About 90 per cent are money purchase plans.

SOURCE: Michael C. Wolfson, Pension Plans in Ontario: A Statistical Overview, in Research Studies, Volume 1.

CHAPTER 3

Present Practices

In the previous chapter we briefly outlined the three-tier structure of Canada's retirement income system and pointed out the corrosive effects of inflation on the real value of all fixed incomes, and pensions in particular. In this chapter we elaborate upon the responses of the present retirement income system to the problems that inflation presents to pensioners. We examine the extent to which various forms of inflation protection have been incorporated into our present retirement system. We conclude with a brief review of indexation practices in other nations.

Employment pension plans and private pension savings compose the third tier of the retirement system. The federal programs in the first two tiers (OAS, GIS, and the CPP) are fully inflation-protected. The Task Force, in focusing on the issue of inflation protection, looks at how the third tier protects its members from inflation, as well as how the three tiers combined protect employees. As we shall see, most public sector pension plans have either an automatic escalation formula or a regular practice of granting voluntary (or 'ad hoc') increases to protect the income received at the third level. For the most part, private sector members must rely on irregular ad hoc increases to protect the real value of their pension benefits.

I GOVERNMENT PROGRAMS

The first two tiers of the retirement income system in Canada are composed of government programs. In this section, we elaborate upon these programs.

Chapter 3: Present Practices

A Old Age Security (OAS)

The OAS is payable by the federal government to every person who is 65 years of age and over, with full or partial pension governed by residence requirements. The full OAS pension as of October 1987 was $308.19 per month, or approximately $3,700 per year. The OAS is called 'universal' because it does not take into account previous earnings, other benefits, years in the work force, or tax status. Payments of the OAS benefit are made on an individual basis (i.e. each partner of a marriage receives a separate pension).

The OAS is now fully indexed to the CPI, with adjustments made quarterly. In 1968, with the introduction of a pension index in the CPP, the OAS became indexed annually with maximum increases of 2%. The cap was removed in 1972, and full CPI-indexing began. The following year, adjustments went from a yearly to a quarterly basis.

At this time, there are no funding provisions for the OAS, and post-1975 payments have come from federal consolidated revenues. Until 1971 the program was financed through sales taxes, corporate income taxes, and personal income taxes, with any additional required amounts coming from general revenues. A separate Old Age Security Fund was maintained, and when the earmarked taxes were eliminated in 1971, an amount equivalent to what would have been raised was credited to the fund. The fund itself was abolished in 1975.

In 1985 the federal government questioned the merits of continuing universal programs such as the OAS for those not in need. In addition, the government in its 1985 budget proposed to partially de-index the OAS, adjusting for only annual CPI increases of more than 3 per cent per year. This provision was abandoned in the face of strong opposition, particularly from senior citizens' groups.

B Guaranteed Income Supplement (GIS)

The GIS is a monthly supplement paid by the federal government to OAS recipients living in Canada with limited or no incomes and is designed to provide a basic guaranteed level of income for those eligible persons above 65 years of age. Consequently, GIS payments depend on an individual's or couple's income from sources other than OAS. The amount of GIS supplementation is generally based on the previous year's income. Like the OAS, GIS payments go to those meeting certain residence requirements and are fully indexed, adjustments being made quarterly. And like the OAS, the GIS is entirely financed from Consolidated Revenues.

As of October 1987, the maximum GIS payment was $366.28 per month (approximately $4,395 per year) for single, widowed, or divorced pensioners. The maximum total monthly payment (OAS & GIS) would be $674.47 or $8,094 per year. The payments are scaled according to marital status. In the case of a married couple, the maximum monthly GIS payment would be $238.56 per person, bringing the maximum OAS/GIS total to $546.75 per person per month or $6,561 per person per year.

The amount of the GIS supplement is reduced by $1 for each $2 of outside income, excluding the OAS and certain other types of income. Reduction begins at $2 per month of other income, so that the maximum benefit is payable when other income is less than $24 per year, or $48 for a married couple. The benefit is not flat-rated; income is taken into account, including CPP, and supplementation is adjusted between zero and the maximum according to outside income. In addition to the OAS, other items excluded as income are certain government and social pensions such as war pensions, workers' compensation, provincial supplements like GAINS, CPP death benefits, family allowances, and payments from certain employee profit-sharing plans.

C Spouse's Allowance (SPA)

Spouse's Allowances are paid to spouses of OAS recipients receiving GIS when the spouses are between ages 60 and 64 and live in Canada. As with the OAS and GIS, this benefit is fully indexed to CPI increases on a quarterly basis. It is also funded from Consolidated Revenues.

At its maximum, the spouse's allowance is equal to the current OAS and GIS supplement for a married person. Consequently, the maximum spouse's allowance as of October 1987 would be $546.75 per month (equal to the OAS payment of $308.19 and GIS supplement of $238.56 to the spouse over 65).

Like the GIS, this benefit is income-tested, with benefits reduced as income increases. However, the SPA benefit is reduced $3 for every $48 of a married couple's income. It is paid until 65, at which time the OAS and GIS take over. It will continue to be paid on the death of the pensioned spouse, but terminates on remarriage. The program was initiated in 1975, as an amendment to the Old Age Security Act.

Effective September 1985, all widows and widowers aged 60 to 64, meeting Canadian residence requirements, and having little or no income are eligible to receive the Widowed Spouse's Allowance (WSA) regardless of the age of their spouse at death. The maximum benefit is reduced by $3 a month for every $48 a month of the surviving spouse's yearly income. It terminates at age 65 or remarriage.

D Guaranteed Annual Income System (GAINS)

The Ontario GAINS program, originally introduced in 1974, is a 'top-up' for pensioners receiving full or near full OAS and GIS benefits. It is provided by the Ontario government for the purposes of bringing the incomes of pensioners up to a level thought to be appropriate in the province of Ontario. This level was last adjusted in December 1984. Benefits are paid automatically to qualified recipients out of provincial consolidated revenues.

As of October 1987, a single pensioner receiving the full OAS and GIS benefits would receive an additional $83 per month from GAINS bringing the total monthly income to $757.47 or $9,090 per year. For every $2 of additional income, the GAINS benefit is reduced by $1 and is therefore similar to the federal 'tax-back' rate. The result of this double 'tax-back' is that for every $2 earned, the total GIS plus GAINS payment is reduced by $2.

E Canada Pension Plan (CPP)

The benefits paid by the CPP are earnings-related, being based on required contributions of employers, employees, and the self-employed. Benefits are generally payable as monthly retirement pensions at age 65, though one may, as of January 1, 1987, take an actuarially reduced benefit by starting between the ages of 60 and 65, or an actuarially increased benefit by starting between the ages of 65 and 70. Benefits are also payable to disabled contributors, surviving spouses, and dependent children, and a lump-sum benefit is payable on the death of a contributor. All benefits are adjusted annually in accordance with increases in the CPI. In 1987, the maximum CPP benefit an individual over the age of 65 could receive was $521.52 per month or $6,258 per year.

The plan covers virtually all employed members of the workforce between the ages of 18 and 65 and includes those between 65 and 70 who have deferred their retirement. Those earning incomes below the Yearly Basic Exemption level (YBE) -- $2,500 in 1987 -- are not required to contribute. Pension credits under the plan are fully portable, and vesting is immediate.

The incomplete funding of the CPP has been controversial. As the 1984 Ontario White Paper states: 'While the principles governing the CPP's benefit structure are well established, the principles that govern the Plan's long-run financing remain ambiguous ... Perhaps its most serious deficiency is that the Plan's contribution rate gives an unrealistically low measure of the true cost of benefits promised.'[1]

Contribution rates to the plan have in fact just recently been increased. From January 1, 1966, to January 1, 1987, the contribution rate per employee was 3.6% of eligible earnings -- 1.8% contributed by employer and 1.8% by employee. Commencing January 1, 1987, the total contribution as a percentage of eligible earnings is raised by 0.2% each year until January 1, 1992, after which the contribution rate will be given incremental increases each year by 0.15% until the year 2011. The total contribution will then be 7.6% of eligible earnings. The move came as result of perceived future funding problems. Some believe that after 2011 contribution rates will have to be increased even further.

There is a maximum yearly contribution a member can make. This maximum is based on the difference between the YBE and the Year's Maximum Pensionable Earnings (YMPE). The YMPE is supposed to roughly reflect the Average Industrial Wage. If one's salary was less than the YMPE, then the total salary minus the YBE would determine one's maximum yearly contributions. In 1987, the YBE was $2,500 and the YMPE was $25,900. Therefore, the maximum contributions were $889.20 ([$25,900 - $2,500] x 3.8%).

Benefits received from the plan are based on earnings. The monthly pension is calculated as 25% of the employee's average monthly pensionable earnings. This average is based on the number of years the employee could have worked rather than the number of years actually worked. Periods of low or no earnings, due to education, retraining, etc., can be excluded up to a level of 15% of the contributory period. The benefit figure is adjusted to reflect current wage levels, thus incorporating inflation protection on the pre-retirement benefit.

Many employment pension plans are 'integrated' with the CPP. 'Integrated Plans' are those that provide a lower level of contributions and/or benefits on all or part of earnings up to the YMPE under the CPP or that provide for pensions to be reduced by all or part of the CPP benefits. When plan benefits are not reduced but are added to CPP benefits, the plans are referred to as 'stacked'. In 1984, 30 per cent of all Canadian plans representing two-thirds of the 4.5 million plan members in Canada were members of integrated plans. The high ratio of members in integrated plans is largely due to the fact that in 1984 over 90 per cent of public sector plan members were in integrated plans.

II AUTOMATIC INDEXATION

In the previous chapter, Table 2.5 shows that in 1984 only 4.7 per cent of Canadian pension plans, public and private, contained some form of automatic escalation (also sometimes called 'formal' or 'contractual' escalation). However, many of these plans covered large numbers of employees, and so the proportion of total members covered by some form of automatic escalation was 33 per cent. It is important to note that the percentage covered differs significantly between the public and private sectors. In the latter, only 6.3 per cent of members were covered in 1984, that is, 160,000 out of 2.5 million.

Table 3.1 provides a more detailed breakdown of similar information for Ontario members of pension plans. (The data are for 1985, so the totals do not exactly correspond to the 1984 figures presented above.) In 1985 there were approximately 1.8 million pension plan members, including the roughly 300,000 plan members who are in the federal 'exempt' and 'federal' categories identified in Chapter 2. Overall in Ontario, about three-quarters of the 1.8 million members had no form of automatic inflation protection, though some of these were members of plans having regular ad hoc updates.

In Table 3.1, breakdowns are provided according to public and private sector participation, and according to the type and degree of indexation where present. Figure 3.1 summarizes the situation. Thus, in 1985, 142, or 88 per cent, of public sector plans, comprising 44 per cent of all Ontario public sector members, had no form of automatic indexation. (We will see in a later section that most of those in the public sector without automatic indexation receive regular ad hoc adjustments.) While only 12 per cent of plans had indexation of some sort, these plans represented about 385,000 members, or 56 per cent, of the federal and provincial public sector workers in Ontario. Of those that had some form of indexation, the large majority fell into two categories: CPI-linked escalation, capped between 8 and 9.9%, and full CPI-linked escalation. The 212,000 members in this large capped-CPI group primarily consist (two-thirds of plans) of Ontario public servants and teachers, whose increases are capped at 8%. In Table 3.1, the fully indexed group of seven plans cover federal employees, such as Members of Parliament, the federal public service, the RCMP, and the Canadian Forces.

The vast majority of Ontario private sector pension plan members do not have automatically indexed, inflation-protected employment pensions. About 1.1 million, or 95 per cent, of private sector members had no automatic indexation. Of the remaining 60,000 or so members whose plans were indexed in some form, about 41,000 members had automatic yearly CPI-linked escalations capped at less than 3%. Approximately 8,000 more members are protected up to levels of inflation between 3 and 6 per cent. Virtually all of the remaining members belong to two plans: the roughly 2,600 members of Shell Canada's pension plan have CPI-linked increases capped at 10% per year, while almost 1,100 of the 1,920 members with full CPI-linked inflation protection belong to the pension plan of H. J. Heinz Co. What is further interesting to note is that the remainder of those with fully indexed pensions belong to plans with less than 5 members, hence the large number (143) of plans with full indexing. Finally, there were approximately 6,500 members with some 'other' form of automatic indexation.

Recent significant developments not reflected in the above statistics are the new Canadian Auto Workers Union contract with Chrysler, Ford, and General Motors and the Air Canada settlement. It is not clear whether these contracts, being limited to six years in the case of the auto contracts and five in the case of Air Canada, can be considered automatic indexation.

A Automatic Indexation of Public Sector Plans

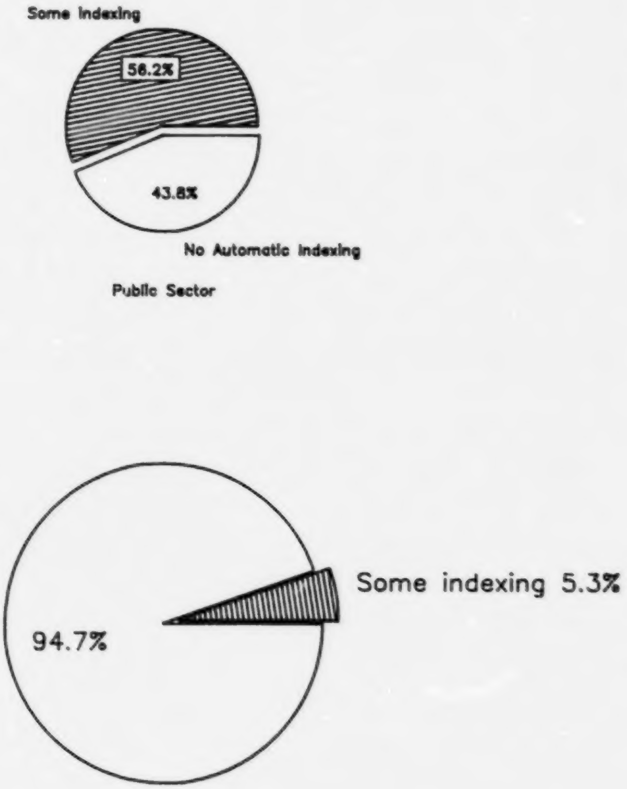
As we noted above, most of the Ontario public sector members with indexed pensions are federal or provincial government employees or teachers. Federal public servants have fully indexed pensions. According to the Supplemental Retirement Benefits Act (SRBA), and the Public Service Superannuation Act (PSSA), federal public servants must contribute to their pension fund. In particular, according to the SRBA, each member must contribute a portion of salary to a Retirement Benefit Account for the purpose of pension indexation. When the indexing plan was introduced in 1970, the contribution level was set at $^1/_2$ of 1% of salary; in 1977 the employee contribution level was raised to 1%. The federal government matches these contributions, and covers any actuarial liability. Moreover, when the federal plan was introduced in 1970, it was made fully retroactive. Part of the costs of this retroactivity were paid for directly from the federal government's Consolidated Revenue Fund. In the years between fiscal periods 1974-75 and 1985-86, $4.25 billion was charged to the Consolidated Revenue Fund.

On December 16, 1986 the federal government introduced legislation, Bill C-33, aimed at ending automatic CPI-linked indexation. The federal government proposed to tie future inflation adjustments to the revenues generated from a new contributory fund. 'Permissive adjustments' to benefits would be made if

FIGURE 3.1

Automatic Inflation Protection in Ontario, 1985

(Proportions of all pension plan members)



Private Sector

SOURCE: Table 3.1

the fund generated sufficient revenues. Investment returns credited to the future service fund would be calculated using a yearly index based on the returns of ten large Canadian pension funds selected by the management committee of the pension fund. In other words, the new fund would provide for future pension benefits, and inflation adjustments would in general be paid out according to the performance of this notional fund. The Bill is currently awaiting its second reading in the House of Commons. The opposition of the Public Service Alliance of Canada and many other labour groups to the proposed Bill leaves the passage of the legislation in some doubt.

The other large components of the public sector which have indexed pensions are Ontario public servants and teachers. As in the federal plan, the Ontario public plan members contribute to a separate adjustment fund, established in 1975 pursuant to the Superannuation Adjustment Benefits Act (SABA). As with federal indexation, part of the costs of retroactivity were paid for from the government's Consolidated Revenue Fund. A contribution of 1% of salary is made by these employees to their respective superannuation adjustment funds in addition to their contributions to the basic pension fund. The government of Ontario matches both of these contributions. Yearly adjustments to the benefits for inflation are linked to increases in the CPI, up to a maximum increase of 8%.

An interesting feature of this protection mechanism is a process by which inflationary increases above the 8% are 'banked' or 'rolled over' for use in future years when the inflationary adjustment would be less than the 8% limit. Thus, the 8% cap and rollover provision is in reality a timing mechanism that limits plan liabilities in the short run to 8% increases, while tending to ensure that full purchasing power is maintained in the long run. Proponents of the plan point to its flexibility in dealing with inflation, capping risk while protecting purchasing power.

The following example will help clarify the rollover mechanism. First, let us assume that the inflation 'bank' is empty at year 0:

	% Inflation Bank at Beginning	% CPI	% Adjustment	% Inflation Bank At Year End
Year 0			0	
Year 1	0	10	8	2
Year 2	2	4	6	0

If in year 1 a 10 per cent increase in the cost of living is recorded, pensions will be increased by 8% and 2% banked for future use. In Year 2 when inflation falls to 4 per cent, pensions are increased by 6% (4% + 2%) and the inflation bank is exhausted. Had Year 2 inflation been 7 per cent, the adjustment would have been 8%, and 1% would have remained in the bank.

Funding provisions for the plan are similar to those of the CPP, that is, the plan is not fully prefunded and is supported on a modified pay-as-you-go basis out of current revenues. In both instances, plan participants were informed at the inception of the plan that initial contribution rates to the plan were inadequate and would eventually have to be increased. The pay-as-you-go funding arrangement involves large intergenerational transfers and obscures the government's actual liabilities. Such funding arrangements are likely to create problems in the future. As the combined contributions increase, there will be growing resistance from the employees to that increase.

B Automatic Indexation of Private Sector Plans

As earlier indicated, only 5.3 per cent of Ontario private sector employees have some form of automatic inflation-adjusted pension benefits. We have already mentioned two significant indexed plans: Shell Canada and H. J. Heinz Co.

A few automatically indexed plans were not represented in our 1985 Ontario data. Sears Canada, on January 1, 1987, announced that it was moving to automatic indexation according to a formula of 75% of CPI increases, minus 2%. [This Report presents such a formula as (75% of CPI) -2%.] Any annual increase is capped at 12%, therefore covering inflationary increases of up to about 18 per cent. The increase also has another cap: the formula increase cannot exceed salary increases to actives during the same period. The scheme is contributory and is prefunded rather than pay-as-you-go. Finally, the formula is being applied prospectively to future service benefits and has a retroactive component for benefits earned in the past. Eaton's has also announced an indexing plan similar to the plan adopted by Sears.

The new Canadian Auto Workers' Union contracts with Chrysler, Ford, and General Motors include automatic pension indexation for the first time. From a pension standpoint these agreements have a number of significant aspects. Different provisions apply to those who already have retired and to those who will retire in the future. The escalation arrangements for those currently retired are less generous than for those retiring in the future. The formula for future retirees provides for a maximum of 90% inflation protection up to a specified cap expressed in dollar terms each year, with the carry-forward of any indexation in excess of the cap. This formula has been constructed so that the indexation cannot raise pensions of retirees above the pension levels of later retirees. The escalation arrangements are in place for six years, although the collective agreement runs for only three years.

There is a significant increase in the basic monthly benefit from $22.05 to $28.00 for each year of service for all who retire after the date of the new agreement. Furthermore, for these future retirees, pensions will increase each year by a percentage approximately equal to 90% of the previous year's increase in the CPI, subject to a cap for each year of service of $1.50 for each increase up to 1992 and a cap in 1992 of $2.00 for each year of service, up to a total increase of $8.00 over the six years.

The indexation formula for future retirees is based upon the cost-of-living (COLA) increases given to active workers as a part of the wage package rather than directly linked to the CPI. The annual caps of $1.50 and $2.00 serve to limit each year's escalated pension to the amount that an employee retiring in that year will receive. In these ways, pension indexation is prevented from exceeding current wage increases or the pension levels of future retirees.

For past retirees, pensions will increase immediately. These increases range from $1.00 to $3.00 monthly for each year of service depending on the individual's retirement date; and, in the coming six years, they will increase each year by a specified dollar amount, providing a total increase of $4.00

monthly for each year of service over the next six years. For past retirees these annual increases are not linked to actual inflation, but rather have been established in the contract.

The CAW agreement provides retroactivity for all employees. However, the retroactivity for those already retired is much less generous than the retroactivity for current employees. By 1992, those already retired will gain, at most, a $7.00 increase monthly for each year of service compared with the previous contract. By 1992, current employees who retire between 1987 and 1992 may gain as much as $13.95 monthly for each year of service, compared with the previous contract (from $22.05 for each year of service to $36.00 for each year of service). It should also be noted that no increases were provided for deferred pensions.

In general, most other large plans that are indexed to some degree are university plans (dealt with here as private sector plans). The University of Toronto, for example, indexes pensions by the greater of 60% of CPI or (100% of CPI) -4%. The University of Waterloo guarantees indexation according to the CPI up to a 5% cap, and has usually granted nearly full indexation in years of higher inflation.

Three private pension plans with Ontario members that escalate according to an excess earnings formula are discussed by Professor Pesando in his background study. (The excess-earnings approach, and its terminology, are explained in Chapter 5, which analyses its strengths and weaknesses.) Queen's University is using an excess earnings formula with an internal 'guide rate' set equal to the four-year, moving average return on the total fund. The return is the true market return on the fund, taking into account both realized and unrealized capital gains and losses. The 'base rate' is 6% and there is no ceiling on yearly adjustments. Over the past four years, because of the strong performance of bond and stock markets, the returns on the plan fund have allowed pension benefits to be increased by 59 per cent, while the CPI has risen by 19 per cent. Carleton University uses a similar approach, with a nominal floor for yearly increases guaranteed by a special reserve fund. Fund increases at Carleton over the past five years, made yearly on July 1, were:

July 1st	Increase (%)	CPI (%)
1982	4.39	10.80
1983	8.71	5.78
1984	5.78	4.35
1985	7.84	4.01
1986	16.14	4.09

Finally, the Canada Life Assurance Company uses a guide rate set equal to the earnings of the general funds of the company. The assets are not valued at market, so that the reported earnings are not equivalent to a true market rate of return on the fund. The base rate is 4%, and there is a ceiling on adjustments made in any one year, with a carry-forward (rollover) provision.

Despite the apparent attractiveness of the excess earnings method of inflation adjustment, one must bear in mind the risks to pensioners of investing in the higher-risk assets that have been invested in by the Queen's and Carleton plans. The returns to the fund are also subject to wide fluctuations. These issues are discussed in greater detail in Chapter 5.

III AD HOC INCREASES

Many plan sponsors raise the level of their pension benefits during retirement to compensate in part for inflation. These 'ad hoc' increases may be paid for from surplus in the pension fund, or from corporate earnings. They need to be funded when they are granted, but do not have to be taken into account in the funding process before they are granted.

A Ad Hoc Increases in the Private Sector

While we know ad hoc increases take place in the private sector, we cannot precisely determine the prevalence or the amounts. Ad hoc increases are commonly believed to have generally compensated for 40 per cent of inflation. However, we have not been able to substantiate either this figure or the number of employers making them. Many ad hoc increases are paid from corporate income rather than the pension fund, so the records are not available outside the corporation. Even with increases that have been reported to the Pension Commission of Ontario, government records do not clarify the details.

According to the Association of Canadian Pension Management (ACPM), the 'vast majority' of their members give ad hoc increases when financial circumstances allow.[2] Information taken from the actuarial firm of Towers, Perrin, Forster and Crosby[3], in a data base consisting of 251 participants, shows that the majority of employers reporting on pensions gave ad hoc increases. Of 165 participants reporting, 26 per cent made one or two adjustments between 1966 and 1985, 30 per cent made three or four adjustments, 21 per cent made five or six adjustments, 12 per cent made seven to eleven adjustments, while 11 per cent reported twelve or more adjustments. The figures also indicate that for salary levels at retirement of '1 times the wage index', 16 per cent of respondents gave cumulative adjustments of under 25% of the CPI; 69 per cent gave increases between 25% and 49% of the CPI; 6 per cent gave increases between 50% and 74% of the CPI; 7 per cent gave increases between 75% and 99% of the CPI; and 2 per cent gave increases representing 100% of the CPI. It should be noted, however, that the TPF & C data bank provides information only on benefits to salaried employees and not on benefits to hourly wage earners.

A Pension Commission of Ontario survey in 1983 used a sample of 99 pension plans containing roughly equal numbers of final average, career average, and flat benefit plans and representing small, medium, and large plans. The survey found that only 20 per cent of plans escalated the benefits of retireds and only one plan escalated deferred benefits.[4]

Another study of 284 companies was undertaken in February and March 1987 by Hewitt Associates.[5] Like the TPF & C study, the data base consisted of salaried employees. The survey results indicate that 76 per cent of companies with defined benefit plans granted at least one post-retirement pension increase between 1977 and 1986. Of these companies, 52 per cent granted four or more increases. Defined benefit plan increases were more prevalent among non-industrials than industrials. Larger companies (i.e. more than 1,000 employees) granted increases more often than smaller companies, while Canadian companies granted more increases more often than Canadian subsidiaries of U.S.-based companies. These increases were primarily funded using plan surplus. The median total increase during the past 10 years for those companies granting an increase was 29 per cent (representing 27 per cent of the CPI increase in the same period).

Despite these surveys, it is difficult to get the true picture of the extent of the practice of ad hoc increases. One must bear in mind not only that the Hewitt and TPF & C surveys were composed of salaried employees, who in many cases might be thought to receive more favourable treatment than their hourly-paid cohorts, but also it is not unreasonable to expect some employers who do not upgrade their benefits for retireds to avoid responding to these surveys.

B Ad Hoc Increases in the Public Sector

About 300,000 public sector members in Ontario are in pension plans lacking an automatic indexation mechanism (Table 3.1). However, regular ad hoc increases in benefits, in many cases according to a specific formula, to some extent compensate the majority of these members for inflationary erosion of their pensions.

Of this number, the largest employee group -- close to 140,000 persons -- are members of the Ontario Municipal Employees Retirement System (OMERS). This plan covers the majority of municipal employees in Ontario, as well as library boards, police commissions, and the non-teaching staff of school boards. The OMERS Board of Directors, composed of employer and employee representatives, has adopted an excess earnings formula as an internal policy for escalating pension benefits. The base rate has been set at 6%.

It is the Board's stated policy to provide an increase of at least 60% of CPI; should the fund fail to do so, a minimum adjustment of 60% of the CPI would be examined as a possibility. It is the current Board's policy not to recommend increases in excess of inflation but rather to bank these extra earnings in a contingency fund for years when the formula is unable to provide an adequate increase.

Four other public sector plans, representing about 100,000 members[6], provide regular ad hoc increases. These plans are the Ontario Hydro Pension Plan, the Workers' Compensation Board Superannuation Fund, the Hospitals of

Ontario Pension Plan, and the Colleges of Applied Arts and Technology Pension Plan.

IV INDEXING EMPLOYMENT PLAN BENEFITS IN OTHER COUNTRIES

What provisions are there for indexing employment pension plan benefits in other countries? We asked Mildred J. Morton of the Research Branch of the Library of Parliament in Ottawa, who had worked with the 1983 federal task force on pensions, to survey the practices in a number of foreign jurisdictions. Her comprehensive study of practices in the United States, the United Kingdom, Germany, France, and Sweden is contained in Volume 1 of the Research Studies.

The main conclusion we have drawn from her study is that indexing of employment pensions is a recognized practice in a number of countries abroad. In three of the countries examined, the Federal Republic of Germany, France, and Sweden, employers are required to index benefits. In France, benefits are indexed to wages, and in the other two countries to prices. Employers in the United Kingdom who have contracted out of the state earnings-related pension plans -- over 80 per cent of all firms with 100 or more workers (but only 18 per cent of all smaller firms) -- will soon be required to index that portion of the benefit which is equivalent to the state pension to the increase in prices to a maximum of 3%; the government plan itself will be responsible for adjustments in excess of 3%. The U.K. government is not considering the imposition of further requirements. Inflation protection for employment plan benefits is not mandated in the United States, nor is such a policy being seriously considered by the Administration or by Congress.

The policies and practices of various countries with respect to inflation protection must be placed in context to be useful in deciding what we in Ontario should do. For each country, Morton's study describes the principles on which the retirement system is based and provides some background on the way it evolved. The study describes the state pension plans, their benefits, and their financing arrangements (which involve a tax on earnings), the relationships which exist between state and employment plans, the extent to which employment plans are regulated, and how they are financed. Because retirement plans are only one component of a set of social security programs, these other programs and their costs are also briefly described in her study.

In the countries examined, generous public arrangements are accompanied by generous contractual arrangements rather than being substitutes for them. The Federal Republic of Germany, France, and Sweden have the most costly public pension programs (and the most costly social security programs), in part because the plan benefit structure is richer and in part for demographic reasons. In 1983, expenditures for public pensions in the Federal Republic of Germany and France amounted to over 12 per cent of the GDP of these countries and to a little under 12 per cent of GDP in Sweden. In each country, most or all of these costs are financed by a tax on earnings. Canada, in contrast, with a much younger population and with current costs below long-run costs, spent only 5 per cent of GDP on public pensions in 1983.[7] Nonetheless, in France and Sweden, contractual pension arrangements are heavily regulated. In particular, pension coverage is mandatory, and benefits are adjusted annually. In the Federal Republic of Germany, while private sector employment plans are not as closely regulated, employers are required to adjust benefits, although it has been left up to the courts to determine the precise nature of this requirement, in which the financial health of the company plays a key role. Although the financing of pension expenditures, both public and contractual, is a matter of great concern in all these countries, none, with the possible exception of the U.K., is seriously contemplating radical reform of the system. Certainly none is thinking of abandoning the existing policy of adjusting benefits. Let us look briefly at the position in each country surveyed.

A Sweden

In Sweden, public and employment pension plans form an integrated system. The system embodies a commitment to high levels of income replacement for all wage earners whether they work in the public or the private sector and whatever their income level. Both elements of the system incorporate a commitment to adjust benefits in pay.

The public system consists of two tiers: a basic universal flat-rate benefit available to all resident Swedish citizens and a supplementary earnings-related benefit available to all resident workers. For a single worker retiring after a full career, the combined pension replaces about 65 per cent of average earnings over the best 15 years of employment, and for a married worker with a dependent spouse, it replaces about 80% of earnings up to a maximum amount, which in 1986 was just over twice the average wage. Both the base amount, which is used in calculating the initial retirement benefit, and pensions being paid are adjusted to price increases. The index is the general consumer price index.

Employment pension arrangements grew out of collective agreements between management and labour. By collective agreement, almost all employees are covered -- in 1986, 90 per cent of Swedish employees. These plans are designed to supplement the public plans. Adjustments are made annually to pensions in pay, based on surplus earnings in the relevant insurance funds up to the rise in the consumer price index.

B France

In France, as in Sweden, public and employment pension plans are integrated. The public scheme is designed to produce a benefit equal to 50 per cent of earnings averaged over the 10 best years after a full career. There is an earnings ceiling (about one and one-half times the average wage) and a minimum benefit. The earnings ceiling is adjusted to reflect increases in wages, as are pensions in pay. Adjustments to pensions in pay are made at fixed times, according to a formula set out in legislation. Since 1974, adjustments are made twice yearly in order to offset rapid price increases. Between the years 1974 and 1984, when prices tripled in France, the real purchasing power of the average pension increased about 20 per cent. Recently changes have been made to the indexing formula to slow down the growth in adjustment increases.

Employment pension plans, which are intended to supplement the public plans were, as in Sweden, developed through national collective agreements. Although benefits are not calculated as a percentage of earnings, it is believed that public and employment plan benefits together replace about 75 per cent of covered earnings. As in the public plan, pensions in pay are adjusted in line with wage increases.

The generous public and private schemes in France, which, as mentioned above, replace perhaps 75 per cent of covered earnings, are currently being reassessed. There is grave concern about the financial situation of the public plan. Similar concerns have been expressed about the employment plans. Minor changes have been made to reduce benefit expenditures. Emergency measures have been taken to further increase contribution rates, which have been rising steadily since the mid-70s, and to supplement program funds with tax revenues. A number of proposals have been made for more permanent changes to the pension system; however, the debate has really just begun, and policy is yet to be developed.

C Germany

There is a government-run income-related scheme in Germany. An essential element of this statutory scheme from its beginning has been the principle that pension benefits, as well as the earnings on which initial benefits are calculated, should be adjusted to increases in wages. It was expected that wage increases over the years would allow workers to retire with a pension equal to at least 50 per cent of the average gross wage in the years immediately preceding retirement, and this expectation was incorporated into the legislation. The adjustment of benefits was intended to act as a compensating mechanism to dampen the effects of recession. However, the persistent recession of the 70s, a small working population and rising pension costs have resulted in changes to the scheme. Between 1978 and 1982, the indexing mechanism was suspended in favour of ad hoc adjustments. In 1984, the legislation was amended to eliminate the reference to the 50 per cent replacement rate. The principle that benefits be adjusted to wage increases was retained; however, by administrative decree, future adjustments were to be indexed to net wages (net of income tax and social security contributions) rather than gross wages. It is expected that this measure will soon become a statutory provision. Between 1980 and 1986, the average pension at retirement has ranged between 44 and 45 per cent of final gross earnings and between 63 and 65 per cent of final net earnings (up to the maximum benefit).

As in Canada, employment pension plans in the private sector are regulated but not mandated. Only about half the workers in the private sector are covered by such plans. Public sector employees are covered by employment pension plans. In the private sector, coverage differs significantly for male and female workers and for workers in small and medium-sized firms (up to 500 workers) and those in large firms. Moreover, employment plans vary widely with respect to the benefits they provide. The number of employment plans grew rapidly in the early 70s when labour was scarce and business prospects were good. However, this trend has not continued, and in recent years, plans are being closed to new entrants, or newly hired employees are allowed to join on less favourable terms.

Benefits in these private sector plans must be periodically adjusted. To paraphrase the relevant section of the Act, every three years employers are required to examine the possibility of adjusting benefits. Their decision must be made on the basis of equity; in particular, it must take account of pensioners' interests as well as the economic situation of the employer. The wording of the provision leaves most of the important issues in this area unanswered: what index to use; whether anything short of full indexation is permissible; whether the choice of funding vehicle makes a difference (in some cases benefits are secured through insurance companies); whether increases in the statutory pension affect the decision; what constitutes ability to pay. As a result, all these issues have had to be decided by the labour courts.

The courts have issued a number of decisions regarding benefit adjustments, not all of which have been consistent. However, as of 1986, the law seems to be the following. If the company is financially healthy, it should make up for the full loss of purchasing power in the previous three years based on the standard of living index for a four-person household with medium income. Adjustments may be limited to the increase in average net wages over the same period, if this is the lower. The increase in the statutory pension cannot be used to offset the adjustment due on the employment pension, even if the total amount of adjustment exceeds the rate of inflation. Firms in financial difficulties may provide a lesser adjustment. This requirement applies to all benefits, no matter how they are funded, including those provided through insurance annuities. There is evidence, however, that many companies have ignored the requirement to adjust benefits so far, especially the smaller ones.

D United Kingdom

Pension legislation in the U.K. has undergone a number of changes since the National Insurance Act was introduced in 1946. Further changes are proposed as part of the present government's plan for social security reform. The changes appear to reveal a lack of consensus as to the state's role in providing for retirement.

Public pension benefits are one element of a contributory national insurance scheme. Other benefits are also work-related and cover (part of) the earnings losses resulting from maternity, sickness, disability and unemployment. The pension program consists of two tiers: a basic flat-rate benefit; and an earnings-related benefit.

The flat-rate benefit has been part of the insurance program from the beginning. It was designed to provide income support at subsistence level. The real value of the benefit has increased over the years; however, the present amount is still not large. In 1985-86, the basic pension was 35.80 pounds sterling per week (1,862 pounds sterling, then worth $3,550 per year).

An earnings-related benefit has existed since 1961. It has been the subject of much review with Labour governments pressing to improve the earnings-related scheme, and Conservative governments trying to eliminate it. At the heart of the disagreement over the benefit are different points of view about the state's responsibility for income replacement at retirement.

The present State Earnings-Related Pension Scheme (SERPS) came into effect in 1978 and will mature in 1998. It is designed to replace one-quarter of the total of the best twenty years revalued (adjusted) covered earnings. Covered earnings are those between the flat benefit amount and a ceiling. Earnings are revalued according to changes in average wages. In a Green Paper published in June 1985, the Thatcher government stated that it intended to replace the present earnings-related scheme with mandatory private sector money purchase plans. After public consultation, the government retreated from this position. In a White Paper issued in December 1985, it announced that it would keep the earnings-related scheme, although there would be reductions to the benefit formula.

The total public retirement pension (including the flat-benefit pension) after the SERPS matures will range from around 50 per cent of final earnings for lower-paid single employees to around 33 per cent of final earnings for single employees with earnings at the ceiling (1985 terms).

An important and unusual feature of the SERPS, as well as that of its predecessor, is the ability of employers to contract out of the plan if the benefits of their employment plan are at least as good as the SERPS benefits. In return, employers and employees pay a reduced rate on the covered earnings portion of their national insurance contributions. In other words, in the U.K. system, employment plans not only supplement the state plan, they may be alternatives to it: both state and private enterprise are considered to be responsible for a minimum amount of income replacement.

One effect of allowing contracting out seems to have been that regulatory policy regarding employment plans has been directed primarily to ensuring that plan designs meet the criteria for providing benefits at least as good as the SERPS. Up to now, regulations have been very strict. Contracting out has been a practice of larger plans and it has been popular among these plans: the Government Actuary's survey conducted in 1983 indicates that 83 per cent of plans with 100 members or more were contracted out.

Government policy with respect to inflation protection for employment plans must be understood in this context. The preservation of the real value of the public pension benefit has been a long-standing commitment of both Labour and Conservative governments. Automatic adjustment of benefits was introduced in 1973. The severe inflation of the 1970s led both parties to change the adjustment formula in order to reduce costs; nonetheless, the principle was not abandoned. Consistent with the principle that contracted-out employment plans are also guarantors of a minimum earnings-related benefit, that portion of the benefit which corresponds to the SERPS pension -- the 'guaranteed minimum pension' (GMP) -- must be indexed. However, under existing legislation, the employer is not responsible for indexing the GMP when it is in pay; rather, the SERPS bear the cost. (Thus, employees of a firm which is contracted out still have claims under the SERPS). The 1985 White Paper proposals would change this arrangement. According to these proposals, employers would be responsible for indexing GMPs being paid up to a maximum of 3% per year. The SERPS would pay the difference between the actual increase in the price index and the employer limit. The national insurance contribution rebate would be adjusted to reflect the increased cost to the employer arising from the obligation to index the GMP.

Until 1986, there were no indexing requirements on employment plan benefits other than the GMP. As of January 1, 1986, as part of the government's plans to make pensions more portable, vested benefits of terminating employees left in an employment plan must be adjusted at a rate of 5% per year or the increase in the price index, whichever is lower.

The present U.K. government is not considering further measures to regulate indexation at this time. The primary impetus for the recent pension reform proposals, as they affect employment plans, is to shift the responsibility for earnings-replacement from the state to private endeavour. The government has decided to retain the SERPS. But other proposals in the 1985 White Paper are directed to encouraging the expansion of money purchase employment plans and individual pension savings arrangements (analogous to RRSPs), which for the first time would be able to contract out of the SERPS. To complement these measures, the requirements for contracting out would be simplified.

Although it has not been government policy to mandate inflation protection in employment plans, the practice of voluntarily providing inflation protection for benefits has been common and has changed significantly. The Government Actuary's Report for 1979 states that in the period under review, about 75 per cent of private sector employment pensions in pay received some increase. Only one-fifth of all private sector pensions were increased by contractual arrangements; in virtually all these cases, the promised increase was 3 per cent per year. The most recent Report, which covers the period between 1981 and early 1984, indicates a greater willingness on the part of employers to make contractual arrangements and a tendency to grant increases which offset and even exceed price increases. One-third of all pensions had been increased according to plan rules. Of these pensions, slightly more than half had received an additional ad hoc increase which in the great majority of cases brought the total increase to 5 per cent and even more in some cases. Of the 46 per cent of pensions which had received ad hoc adjustments, most had also been increased by 5 per cent or more. The average pension increase over the period (where pensions had been increased) was 4.9 per cent, and the average increase in retail prices 5.0 per cent.

One factor which may well be related to the improvement in voluntary inflation protection arrangements is the existence of plan surpluses and the tax treatment of surplus withdrawals. In the past, it was Inland Revenue practice to prevent employers from withdrawing surplus before they had exhausted other means of reducing it, such as taking contribution holidays, giving employees contribution holidays, improving benefits, and so on. It should be noted that the Finance Act of 1986 has changed this practice somewhat. Withdrawal is no longer treated as the method of last resort; however, withdrawals are subject to a new 40% tax.

E United States

The direction of pension policy in the U.S. has not changed significantly since the public Old Age and Survivors Insurance program was established in 1935. Both then and now, the public program provides a minimum level of benefit for the average wage earner. It is expected that employment pension plans and pre-retirement savings will supplement the public benefit. There has long been a commitment to preserving the purchasing power of the public benefit. Between 1954 and 1974 a succession of ad hoc adjustments were made to benefits and the earnings ceilings used to calculated them. In the late 1960s and early 1970s these adjustments exceeded the rise in the cost of living and were clearly intended to allow benefits to catch up with wage increases.

The public plan now covers most of the U.S. labour force. The program is designed to replace covered 'indexed' career average earnings on a sliding scale basis, so that replacement rates on low earnings are higher than those on higher (and covered) earnings. The earnings ceiling is adjusted annually to increases in wages. Earnings themselves are indexed to wage increases. For

1987, the earnings ceiling in U.S. funds is $43,800. The maximum monthly benefit for a single worker retiring in 1987 is $789 ($9,468 annually), and for a married worker with an eligible spouse $1,184 ($14,208 annually). In December 1986, the average monthly benefit paid to retired workers was $482 and to married workers $832.

As a result of amendments in 1977, the benefit formula was changed in order to bring about a gradual reduction in the replacement rate which was at its peak in 1981 when benefits replaced 54 per cent of average earnings. Under the legislation now in effect, it is projected that the long-term replacement rate for those retiring at normal retirement age (i.e., 67) will be 53 per cent for low-income earners, 42 per cent for average earners, and 28 per cent for higher earners.

Although employment pension plans have been expected to play an important part in the pension system, there seems to have been little inclination on the part of government to define a direction for employment plans, much less to mandate one. Current pension legislation was first introduced in Congress in the late 1960s as a response to particular cases of benefits being lost through bankruptcy, mergers and unscrupulous dealing. The proposed legislation was opposed by many business interests, and it was not until 1974 that the Employee Retirement Income Security Act (ERISA) was finally passed. ERISA establishes minimum standards for plan funding and sets out a standard of care for those who handle funds. It creates a program to guarantee the payment of benefits when a plan terminates or the employer becomes insolvent. The Act also sets minimum standards for eligibility, vesting and survivor benefits. It contains no provisions for mandatory coverage, nor does it address the issue of inflation protection. Inflation protection for pensions being paid is left to ad hoc increases by employers. Perhaps one major reason for the lack of public debate on inflation protection in the United States is that the provision by employers of health care to pensioners has been a higher priority.

Chapter 3: Present Practices

NOTES

1. Ontario Proposals for Pension Reform (1984), Toronto: Queen's Printer for Ontario, at p. 37.

2. The Association of Canadian Pension Management, submission to the General Government Committee of the Ontario Legislature concerning Bill 170, April 14, 1987.

3. Towers, Perrin, Forster and Crosby, submission to the Ontario Task Force on Inflation Protection for Employment Pension Plans, May, 1987.

4. Laurence E. Coward, Study on Private and Public Sector Interpretation of Pension Escalation Issues, October, 1983, at p. 11.

5. Submission by Hewitt Associates to the Task Force on Inflation Protection For Employment Pension Plans, June 1987.

6. An analysis of public sector plans in Ontario is contained in the as yet unpublished Report of the Task Force on the Investment of Public Sector Pension Funds.

7. Robert Holzmann, 'Pension Reform: Sharing the Burden', The OECD Observer, No. 138, January, 1986, cited in the study by Mildred J. Morton in Volume 2 of the Research Studies entitled 'Pension Benefits and their Adjustment, the Experience in Five Countries'.

TABLE 3.1

AUTOMATIC INDEXING OF PENSIONS IN ONTARIO

Pension plans and Ontario membership by sector, 1985

Provision for indexing	Public sector				Private sector				Both sectors			
	Plans		Members		Plans		Members		Plans		Members	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Consumer Price Index with yearly maximum of:												
Under 2 %												
2.0 - 2.9%	2	1.2	4,463	0.7	26	0.3	41,268	3.6	28	0.3	45,731	2.5
3.0 - 3.9%	2	1.2	1,919	0.3	28	0.3	5,405	0.5	30	0.3	7,324	0.4
4.0 - 5.9%	3	1.9	341	--	85	0.9	2,527	0.2	88	0.9	2,868	0.2
6.0 - 7.9%	--	--	--	--	4	--	69	--	4	--	69	--
8.0 - 9.9%	3	1.9	211,928	30.9	4	--	6	--	7	0.1	211,934	11.7
10% and over	--	--	--	--	2	--	2,588	0.2	2	--	2,588	0.1
No maximum	7	4.3	166,163	24.3	143	1.4	1,920	0.2	150	1.5	168,083	9.3
Wage index	--	--	--	--	5	0.1	164	--	5	--	164	--
Other	2	1.2	51	--	59	0.6	6,511	0.6	61	0.6	6,562	0.4
Total with provision	19	11.8	384,865	56.2	356	3.6	60,458	5.3	375	3.7	445,323	24.5
No provision	142	88.2	299,918	43.8	9,641	96.4	1,071,514	94.7	9,783	96.3	1,371,432	75.5
Total	161	100.0	684,783	100.0	9,997	100.0	1,131,972	100.0	10,158	100.0	1,816,755	100.0

SOURCE: Labour Division (1985), Statistics Canada

CHAPTER 4

Recent Studies

Pensions have been a part of Canada's political and social agenda for a century. The past decade has been a particularly fertile period for various reform proposals. Beginning in the late 1970s, numerous studies, which are examined chronologically in this chapter, were undertaken by various governments and private institutions. With respect to private pensions, specific reform suggestions such as earlier vesting and locking-in, improved portability, spousal survivor provisions, and the 50% employer contribution rule have been some of the products of the reform initiative. As we noted in the introduction, the Ontario Pension Benefits Act, 1987, incorporates these reform recommendations. There was also a concerted effort by reform advocates and by governments to promote uniform pension legislation across the country.

Inflation protection for employment pension plans has been a widely discussed topic within these reports, though none of the reports focused primarily on the issue. In contrast to the other reform proposals, no consensus reform position could be reached, and no legislated mandatory inflation protection scheme is yet functioning in Canada for pensions being paid. Ontario, according to S. 54 of the Pension Benefits Act, 1987, is now committed to inflation protection in principle, while the federal government under the Pension Benefits Standards Act, 1985, provides that a plan sponsor who incorporates automatic escalation of a deferred benefit would not be bound by the 50% employer contribution rule for that deferred benefit (i.e., that the employer need not have paid for at least half of the benefits). The federal Act states:

> 21.(5) subsection (2) [the 50% rule] does not apply where a defined benefit plan provides for annual indexation of a deferred pension benefit, up to the day when that deferred pension benefit commences to be paid, on the basis of

> (a) increases of at least 75 per cent of the annual increase of the Consumer Price Index, minus one per cent; or
>
> (b) any other formula that, in the Superintendent's opinion, would provide protection that on the average would be comparable to that described in paragraph (a).

Nova Scotia has also committed itself to the protection of deferred benefits. Section 17 of Nova Scotia's Pension Benefits Act requires automatic escalation of the benefits of deferred vested members, though it has not yet prescribed the formula to be followed.

This chapter reviews the discussion and recommendations with respect to inflation protection of these past studies, focusing in particular on the documents released by the government of Ontario and the federal government, which in general have directed the national debate. One can trace the rise in popularity, until about 1982, of the excess earnings approach. After this date, CPI-linked formulas became more popular than excess earnings formulas.

I 'COFIRENTES +' COMMITTEE

The first major pension reform study was undertaken by the 'Study Committee on the financing of the Quebec Pension Plan and supplemental pension plans', ('Comite d'etude sur le financement du regime de rentes et sur les regimes supplementaires des rentes'), the so-called 'Cofirentes +' committee appointed by the Quebec government in 1976 by an Order-in-Council. The committee's goals were to look at pension plan financing and the provision of greater financial security for the elderly.

According to the Cofirentes + report, 'the factor which has most marked the experience of defined benefit plans over the past decades is undoubtedly the rate of interest on investments'. The higher interest rates resulted in higher investment earnings, and as discount rate assumptions were increased to better reflect higher investment return, larger reported surpluses appeared while future contribution rates were lowered. The report questioned whether the employer's use of this excess, either through withdrawals or lower future contributions, and in some cases derived from employee contributions, was equitable. It suggested that:

> If the surpluses derived from interest were automatically used to increase defined pensions, whether they be deferred annuities or pensions in payment, there would be a certain index-adjustment of these pensions since, over a determined period, yields on interest may be considered as being made up of a real rate increased by the inflation rate.

Adjusting pension benefits through inflationary earnings, according to the report, would result in pensions being adjusted on a 'de facto' basis. Excess investment earnings resulting from plan yields above expected levels or from changes in the valuation rates would be used to improve pension benefits. The committee also recommended that the Quebec Pension authority determine a maximum interest rate for funding future benefits. Thus, in the Cofirentes + report, the beginnings of an excess earnings approach to inflation protection began to emerge. This development was to be parallelled in other jurisdictions.

II RETIREMENT WITHOUT TEARS

The federal government acknowledged the problem of inflation for pensioners in several studies. A special Senate Committee, under the chairmanship of David Croll, in a report entitled Retirement Without Tears, published in 1979, explicitly recognized the problem that inflation presented to those on fixed incomes, specifically the erosion of post-retirement purchasing power and of pre-retirement credits in certain types of pension plans, usually career average plans. Given the reluctance on the part of private employers to index pension plans, the committee recommended that 'new solutions must therefore be found to protect pensioners from the ravages of inflation'. However, the committee fell back on recommending the expansion of the CPP as the 'only fruitful alternative' to better protect pensioners from inflation.

III ONE IN THREE

Inflation was further recognized as a problem by the Economic Council of Canada in 1979 in 'One in Three: Pensions for Canadians to 2030'. The ECC concluded that the 'weakness in the present system cannot be removed by industry alone, but it can be overcome by government, or by government in partnership with industry'. The Economic Council therefore recommended that the federal government be prepared to sell inflation-indexed annuities to pension funds meeting certain standards and to individuals cashing in their RRSPs at retirement, the rationale being that, since the government tax base tends to increase with inflation, this increased revenue should be used to underwrite the risk of providing inflation protection.

As an alternative to the government's providing inflation-indexed annuities, the ECC instead recommended that the government might wish to provide insurance against inflation risks to plan sponsors providing indexed pension benefits. The proposal was thought to be worth investigating, since it would allow private institutions to develop indexed instruments.

IV THE LAZAR REPORT

The most extensive federal government study was undertaken by the Task Force on Retirement Income Policy, headed by Harvey Lazar. Published in 1980, the Lazar Report accepted the problem of inflation as identified by the earlier studies and took the next step by sketching out possible solutions.

The report outlined six alternative policy proposals for inflation protection. The first two proposals were excess-earnings-based schemes. Under both schemes the difference between the real rate of return (the so-called base rate) and the nominal rate of return (the so-called guide rate) with its inflation component would represent the degree to which pensions would be indexed. The two proposals differed with respect to what fund determined the guide rate, both base rates being equal. Alternative 1 would use the excess earnings of each individual plan's fund as its inflation guide, while Alternative 2 would use the excess earnings of an external guide portfolio to determine the amount of the inflation adjustment for all individual plan funds.

Alternative 3 would index to the CPI, but would provide a government-operated stabilization facility in which employers could participate in order to stabilize the earnings from their pension funds. Credits would move between the private pension fund and the government institution, the direction depending on whether the rate of return of a particular year ('benchmark') was greater or smaller than a long-term 'standard' rate of return. Alternative 4 would involve indexed annuities marketed by insurance companies with risk underwritten by the government. Under both Alternatives 3 and 4, the plans should be self-financing in theory because the government would extract surpluses and pay out for deficits. Over the long term, surpluses would balance with deficits.

Alternative 5 would be the indexed bonds approach. Although employers would eliminate their investment risk by purchasing indexed bonds, the study found the net effect of the sale of such bonds on capital markets was uncertain and that the record of these bonds in other countries at that time was 'undistinguished'.

Alternative 6 would require indexing but would allow the liabilities created under an inflation protection scheme to be amortized over a longer interval than the usual 15-year periods. This alternative would not, however, reduce cost uncertainty for plan sponsors but would place the full risk of inflation protection on them. The report concluded that Alternative 6 could be part of a larger package but in and of itself was an insufficient means of facilitating inflation protection.

The committee did not express a preference among the six alternatives, although it eliminated Alternative 5 because of the uncertain impact of indexed bonds on financial markets and the economy.

V THE HALEY REPORT

A different alternative was proposed in Ontario's first major pension reform study. The Royal Commission on the Status of Pensions in Ontario, chaired by

Donna Haley, published its report in 1980. The Haley Report, like the Lazar Report, was a detailed study, numbering ten volumes in all.

The Haley Report, in Volume II, Chapter 10, presents the Commissioners' unanimous conclusions on the 'indexing question'. First, the Royal Commission concluded that government programs such as OAS, GIS, and CPP 'should continue to be fully indexed to the Consumer Price Index to provide a floor of protection against loss from inflation'. Second, the employer had 'no legal or moral obligation flowing from the nature of a pension to ensure that pensions are protected from inflation either before or after retirement.' Third, 'government should not, through legislation, oblige employers who have pension plans to provide any type of inflation protection.' Fourth, the collective bargaining procedure should be allowed to determine what degree of inflation protection would be provided. And finally, the funding of all types of inflation protection in public and private plans should be regulated by the Pension Commission of Ontario 'in such a way that basic pension benefits are in no way undermined.'

Given these conclusions, the Commission rejected all of the mandatory indexing, indexed bond, and government inflation insurance proposals outlined in the Lazar Report. Rather, the Commission suggested that inflation tax credits be used to offset the loss of purchasing power resulting from inflation. Each taxpayer's inflation tax credit would be equal to the rate of inflation times a predetermined income level, which they recommended be set at twice the total of the OAS and maximum CPP. The report maintained that such a scheme would protect all retirees and not just those with private pension plans. It would provide incentive for personal savings, since the value of these savings would now be protected from inflation through tax credits. The system would be flexible with respect to the degree of protection and timing of protection, and, according to the Report, would be easy to administer.

The Commission concluded that this was a reasonable approach to the inflation problem, affording some protection to pensions while allowing resources to be concentrated on reforming some of the more serious issues surrounding basic pensions, such as more complete coverage.

VI THE CAPSA PROPOSAL

In May 1982, the Canadian Association of Pension Supervisory Authorities (CAPSA) published 'A Consensus for Pension Reform'. As we mentioned in our introduction, representatives from Ontario and the federal government played key roles in the discussions. Among the reform proposals agreed to by the pension administrators was the recommendation that private pensions be indexed according to the excess interest method.

The report went further, specifying that the 'base rate' or real rate of return be set at $3^1/_2$% and that the 'guide rate' be the average interest rate paid over the previous five years on long-term federal government bonds. Such a guide rate according to the paper would be 'definite, easy to determine and uniform' as well as 'reasonably current'. And because the guide rate was linked to the general economic climate and not to any particular fund, the method, according to CAPSA, would produce a relatively stable adjustment factor.

The proposal provided transitional provisions for benefits arising from service prior to the enactment date of the reform legislation. The transition provision would be the difference between the guide rate and a modified base rate set at 7%. The rationale for the transition base rate was to strike a balance between a prospective proposal which would only slowly take effect over a long period of time, and a retroactive one at $3^1/_2$% which might create serious unfunded liabilities for plan sponsors if it took effect immediately.

The inflation protection provisions would not apply to money purchase plans already in payment or actives in the accumulation period. However, for future money purchase plans the purchase of an increasing annuity would be required, though the employee would be able to opt out of such a requirement and purchase a level annuity.

VII THE GREEN PAPER

Initially, both the federal government and the province of Ontario accepted to some degree the excess earnings approach. The Government of Canada, in its

Green Paper, 'Better Pensions for Canadians', published in 1982, stated that it 'favours the development of some form of automatic inflation protection for employer-sponsored pension plans that will be fair to employees and employers, and which will also ensure a reasonable level of protection for pensioners'. Beyond this statement of principle, the Green Paper did little more than state that the CAPSA proposal had many 'attractive features', and discussed the CAPSA proposal for a base rate of 3.5% and a modified base rate of 7% on benefits earned before the date of implementation, along with related issues like 'capping', alternative guide rates for an excess interest formula, and indexed bonds as a means of insulating plan sponsors from unwanted risk.

The study did do a costing exercise for the reform of employer-sponsored plans, inflation protection being the major portion of projected cost increases. In general, pension reform was estimated to cost approximately 1.5 to 2.5 per cent of covered payroll, or about 1 per cent of total labour income in the economy. These cost studies were done assuming some increases in the rate of inflation. Where the model assumed zero inflation and no inflation protection schemes, the long-run pension cost increases were in fact higher than with an inflation protection scheme and inflation.

VIII ONTARIO SELECT COMMITTEE

A more substantial measure of approval for the excess earnings approach was given by the Ontario Select Committee on Pensions, a legislative committee established to review the proposals forwarded by the Haley Report. The Select Committee released an interim report in 1981 in which it expressed doubts about the Haley inflation tax credit scheme. The criticisms stemmed from 'the cumulative nature of the tax credit and problems with cost control. The eventual size of the credit could exceed CPP benefits within several years'. The Committee therefore favoured the use of an excess earnings approach. The Select Committee confirmed in its final report in 1982 the desirability of the excess earnings approach for retirees and deferreds, and suggested that the Pension Commission of Ontario proceed to develop the appropriate legislation and phase-in mechanism to implement such a policy. The Haley proposal (i.e. the tax credit system) has not been seriously discussed in Ontario since 1982.

This point represented the highwater mark for the acceptance of the excess earnings approach. One more government study, done by Manitoba's Pension Commission [Proposals for Amendments to the Pension Benefits Act, 1983] endorsed the formula as set out by CAPSA. In Nova Scotia, a Royal Commission on Pensions [Report of the Nova Scotia Royal Commission on Pensions, 1983] reported that the excess earnings approach, despite inherent difficulties, might be a reasonable way to provide inflation protection and required further study. A British Columbia policy paper [Developing a Pension Policy for the Future, 1982] included excess earnings, along with inflation tax credits and CPI-linked formulas as possible alternatives to solving the problems for pension benefits associated with inflation.

IX BUSINESS COMMITTEE ON PENSION POLICY

Fundamental criticism of the excess earnings formula was beginning to emerge, especially from private study groups. The Business Committee on Pension Policy (BCPP) was a representative group of thirteen business and professional associations. The study, published in 1983, originated as a result of business reaction to the proposed reforms of the pension system, particularly those in the Green Paper. The conclusions of the report were summarized for the purpose of a brief to the Federal Parliamentary Task Force chaired by Douglas Frith (discussed below).

The BCPP was quite clear in its opposition to mandatory inflation protection schemes, specifically the excess earnings formula outlined in the federal Green Paper. With respect to inflation protection in general, the BCPP stated that 'the most effective means of protecting pensioners against inflation is to reduce inflation itself'. The BCPP stated that low income earners are entirely insulated from inflation, through the federal mandatory programs. Middle income earners would still be relatively well protected by the same federal mandatory programs that constitute the major component of their retirement income even without voluntary ad hoc increases; with ad hoc increases in addition, the position of middle income earners would be even more secure.

The excess earnings formula was not favoured by the BCPP for several reasons. It argued that the guide-rate-less-base-rate formula would not track the inflation rate closely and would be difficult for employees to comprehend. The group's Capital Markets Study concluded that a fund portfolio could not be designed which would immunize a plan against inflation. And the group's Cost Study predicted the cost of inflation protection to be higher than the Green Paper estimates. Further, these estimated costs would be extremely sensitive to the inflation rate. Finally, the BCPP also strongly opposed any element of retroactivity.

X ONTARIO ECONOMIC COUNCIL

Another thorough analysis, but without a cost study, was advanced by the Ontario Economic Council (OEC) in a position paper, 'Pensions Today and Tomorrow', published in 1983, along with a background studies volume published one year later.

While the OEC concluded that inflation could 'erode dramatically the real value of pensions' and that 'non-indexation of pensions, combined with inadequate survivor benefits, has probably contributed to the high incidence of poverty among elderly women', it did not wholeheartedly accept the Green Paper's excess earnings approach as the best solution. The Green Paper's proposal, more specifically its guide rate based on a portfolio of long-term government bonds, was, according to the OEC, 'woefully inadequate' because of the inverse relation between interest rates and bond prices. Put simply, if a pension fund manager held the benchmark portfolio as a pension fund's assets, then if the inflation rate rose (and the pension was increased according to the formula) the real value of the assets in the fund, i.e. the price of bonds, would fall because the bonds, having a lower-than-market interest rate, would have to be sold for less than their face value. The fund manager could not minimize the plan's risk by holding that portfolio.

The Council recommended that an alternative benchmark portfolio, submitted by Professor James Pesando, of treasury bills and short term bonds, might be a better standard. This portfolio not only would track the inflation rate more closely but also would minimize potential capital losses or gains, given the short-term nature of the securities. Thus, a pension fund manager could conceivably hold the 'benchmark' portfolio to minimize the plan's risk. Using this benchmark, however, would probably lead to a slight real decline in purchasing power as compared to the Green Paper benchmark portfolio, since the long-term real rate of return is lower on short-term bonds and treasury bills than on long-term government bonds. The paper pointed out, however, that such a decline might be desirable, even optimal, since a pensioner's consumption might reasonably be expected to decline with age. Therefore, pensioners might not need total inflation protection.

In addition, the study warned that an excess earnings approach might lead to unforseen effects on capital markets, because a large number of pension fund administrators might wish to invest in the benchmark portfolio.

In general, the Council concluded that the excess earnings approach was a 'mixed blessing' requiring more research. In any case, such a scheme should never be applied to actives, where full disclosure of fund earnings in the bargaining process would in theory lead to an efficient allocation of the fund returns according to collective agreements. The Council also concluded that a mandatory inflation protection scheme should not be retroactive, and in money purchase plans the purchase of inflation-indexed annuities should not be compulsory. If there were compulsory indexation of all annuities, then markets for such annuities would have to develop, perhaps requiring indexed bonds and considerable lead time for institutions to develop these instruments, before the actual inflation protection scheme could be implemented.

XI THE FRITH TASK FORCE

Given the serious problems with the excess earnings method, it is not surprising that representatives of both the federal and Ontario governments, in their next round of recommendations, abandoned that approach. At the federal level, the

Parliamentary Task Force on Pension Reform, chaired by Douglas Frith and set up to study the proposals contained in the federal Green Paper, released its report in 1983.

The Frith Task Force first noted that one's approach to mandatory inflation protection depended on how one viewed the nature of the pension bargain between employees and employers. For example, it would appear that a negotiated contract between a union and employer, where pension benefits were taken to be part of the overall compensation package, would give rise to a stronger claim to either inflation protection or to surplus ownership than would a plan in a smaller firm, not negotiated for and resembling a reward for long-standing service. There might be a moral claim that pensions 'belong to plan members', depending in all cases on the context of the agreement, the Task Force observed. However, it went on to state that there is 'no legal basis for this presumption', that is, that it belongs to plan members. This fact, coupled with the different treatment of pension surpluses by plan sponsors, led the Task Force to reject the Green Paper suggestion that there be mandatory retroactive adjustment for benefits already accrued. Instead, the Report called for representation of actives, retirees, and deferreds, where practical, in pension fund management, and better information for employees.

The Task Force rejected the excess earnings approach to inflation protection, as well as full CPI indexing. Instead it recommended an escalation formula of (100% of CPI) -$2^1/_2$%, thus requiring individual pensioners to bear the effects of the first $2^1/_2$ percentage points of inflation.

To address the fear of the open-endedness of cost to employers under such a scheme, the lesser of two caps was proposed as a maximum for the adjustment scheme. These caps would reflect the economy's ability to pay. The first cap would represent the financial market's ability to pay, using the performance of securities representing pension fund holdings. Here the Task Force suggested a cap equal to 'a weighted, possibly moving average of indicators such as the TSE 300 for equities and other indicators representing yields on bonds'. The second cap, measuring economic ability to pay, would be similar to the movement in Average Wages and Salaries. Such an index would have to be developed by Statistics Canada. Finally, pensions would not have to be indexed before age 65, money purchase plan annuities would be indexed, and the scheme would come into effect three years after the passage of the enabling legislation.

The Task Force felt that this minimum standard would not cause substantial disruptions in existing pension arrangements. It recommended as well that the federal government work with provincial pension authorities to ensure uniform incorporation of the scheme across the country.

XII THE ONTARIO WHITE PAPER

Early in 1984 the Ontario Proposals for Pension Reform, a White Paper intended to serve as the background for the revision of Ontario's Pension Benefits Act, was published. This document, like the Frith Task Force Report, contained a specific indexation formula.

The report rejected the excess earnings formula with respect to inflation protection as being too restrictive, not linked closely enough to the CPI, and based on an incorrect measure of pension returns, ie. because of the inverse relation between interest rates and bond prices, discussed by Pesando and mentioned above in the OEC study.

Instead, the White Paper proposals recommended mandating inflation protection for deferreds and retirees by a minimum of 60% of the previous year's CPI, with benefits being capped at 8%, and with no retroactivity. As compared to the excess earnings formula, this method would be 'more responsive to recent changes in the inflation rate', and would not subject employers to open-ended costs. Moreover, the report claimed such a scheme would be easy to administer. Finally, it would leave pre-retirement benefit increases to be determined in the normal bargaining process, thus ensuring flexibility.

In a comparison between the White Paper formula and the Frith formula, a costing study prepared for the Ontario proposals indicated that with an inflation rate of approximately 6.25 per cent, the protection level (and therefore the cost of inflation protection) would be nearly equal in both formulas. Below this point, the '60% of CPI' formula would provide better protection to pensioners, and above it, the Frith formula would do so. Thus, in long periods of low inflation, the Ontario White Paper formula would provide better protection against inflation.

XIII CONCLUSION

At approximately the same time as the Ontario White Paper was being published, the federal cabinet rejected its own Task Force proposals and in its budget of February 1984 adopted the 60% of CPI formula. The Frith formula was rejected because it required more developmental work, specifically with regard to the proposed caps, while the 60% of CPI formula could be implemented without further exhaustive study. As described in Chapter 1, difficulties in obtaining provincial agreement in the federal-provincial consensus meetings caused the general inflation protection provision for all retirees to be omitted from the version of the PBSA eventually adopted. The Ontario government left inflation protection out of its initial drafts of Bill 170 as well.

From past studies, therefore, potential models with various degrees of retroactivity have emerged, requiring further investigation. Certainly the excess earnings approach, though no longer as popular as it once was, merits attention in its differing particular forms. The 60% of CPI and (100% of CPI) -$2^1/_2$% formulas must be looked at. Further, a formula requiring full CPI indexation continues to be advocated by some groups. Finally, the newest formula that appears as an alternative in the PBSA, (75% of CPI) -1%, must also be studied.

We shall now examine the relative strengths and weaknesses of these formulas and, in a later chapter, proceed to study the costs of each proposal.

CHAPTER 5

Alternative Inflation Protection Formulas

As we saw in the preceding chapter, a number of potential formulas have emerged from previous studies of employment pensions. In this chapter, the formulas are analysed from a fairly theoretical point of view. Much of the analysis is grounded in economic theory. The focus is primarily on the employee's purchasing power after retirement. (For a more thorough discussion of the issues raised in this Chapter, see the paper, 'Assessment of Alternative Formulas for Delivering Inflation Protection', by Professor Pesando in Volume 1 of the Research Studies.) Subsequently, in Chapter 8, various cost estimates are presented. These cost estimates are, in the first instance, of primary (although not exclusive) concern to the employer. To the extent that employees share in the long-run cost of pension return, the cost estimates should be of concern to them as well.

Suggested models can be classified rather generally into two groups: 'indexed' formulas linked to the Consumer Price Index (linkage to a wage index is discussed in Chapter 6) and 'excess earnings' formulas linked to capital market returns. These groups are discussed in the first two sections below, where the historic performance of sample indexes is described and presented graphically. The third section discusses several additional features formulas can contain, including maximum annual or periodic adjustments ('caps'). The question of retroactivity, which is an option with any formula, is a particularly important issue, and thus forms the subject of a separate chapter in this Report (see Chapter 11).

I LINKAGE TO THE CONSUMER PRICE INDEX (CPI)

The CPI, published monthly by Statistics Canada, measures price changes for a fixed basket of commodities purchased by consumers. If retired people tend to consume a basket of goods and services whose prices increase at the same rate as the CPI basket, the increase in the CPI will be an appropriate measure of inflation. As we will see in Chapter 6, many recent studies indicate that the CPI increase is indeed an appropriate index of general price increases for elderly persons. As a result, the Task Force has given careful consideration to the various CPI-linked formulas which have been suggested. CPI linkage has been advocated by many representatives of employees as well as by many representatives of employers.

A 100% of CPI Increases

This formula is generally referred to as 'full' inflation protection, since pension payments are fully shielded from inflation as measured by the CPI. The 'real' value of periodic pension payments (meaning the actual purchasing power of the pension) is therefore constant over time. Inflation does not erode the purchasing power of the pension at all.

Full inflation protection is advocated by many employee representatives who made submissions to the Task Force. The argument was stated cogently by the United Steelworkers of America: 'We see no basis either in logic or in equity for less than full inflation protection. We have yet to see any viable argument that leads to the conclusion that retirees "should" suffer an erosion in the real value of their private pension incomes.' As indicated above, full inflation protection involves no uniform decline in the real (inflation-adjusted) stream of pension payments over time.

Viewed from a different perspective, another significant advantage for retirees is the fact that the purchasing power of the pension is certain. If the pension buys a given basket of goods and services at the time of retirement, the pensioner can be certain that the same basket can be purchased in later years. Whether inflation is very low or very high, the purchasing power of the pension is unaffected. In short, the retiree is protected against all economic uncertainty associated with inflation.

At the same time, however, the plan sponsor is subject to considerable uncertainty. If inflation is low and stable, so are the costs. However, if inflation is unexpectedly high and variable, costs are not only considerable but also extremely uncertain.

The reason for this uncertainty is quite simple. The typical pension fund is at least partly invested in long-term bonds and common stocks. As already noted in Chapter 4, history shows that the 'real value' (after accounting for inflation) of these assets tends to decline as the rate of inflation increases.[1] As a result, the value of the assets of the pension fund in most cases declines (in real terms) when the rate of inflation rises. With full inflation protection, the liabilities of the pension fund (i.e. the pension benefits) are updated to reflect the full amount of inflation, so that the 'real' liabilities of the fund remain constant when the rate of inflation increases. The sponsor is therefore subject to considerable uncertainty, depending on the inflation rate.

How could plan sponsors cope with such uncertainty? One way is to change the asset mix of the pension fund. To shed inflation risk, sponsors could change their portfolios in favour of short-term securities such as Treasury Bills. History shows that the real return on such instruments is less adversely affected by inflation than the real return on stocks and long-term bonds. However, history also shows clearly that the real return on shorter-term securities is on average lower than that on long-term bonds and on stocks. As a result, the shift to Treasury Bills causes pension funds to perform less effectively. To achieve a particular level of pension benefits with short-term securities, therefore, contributions will be higher, since lower investment earnings will be generated. These foregone investment earnings should be included as part of 'the cost' of full inflation protection, since they are attributable to the shift to shorter-term securities in response to the uncertainty imposed on plan sponsors by full inflation protection.

As discussed in Chapter 2, a particularly 'onerous' formula will encourage sponsors to convert from defined benefit plans to a defined contribution or group RRSP arrangement. Full inflation protection is certain to be viewed as an 'onerous' formula and would likely result in massive terminations of existing defined benefit plans. If full inflation protection were adopted, employers contemplating new pension plans would also be discouraged from opting for a defined benefit format.

To summarize: full inflation protection, which is advocated by many employee representatives, entirely shields retirees from uncertainty about the purchasing power of their pensions while subjecting plan sponsors to substantial uncertainty about the costs. Thus full protection may be the catalyst for a large-scale conversion of defined benefit plans to money purchase plans or RRSPs, as well as a disincentive to the establishment of new defined benefit plans. Potentially disruptive and costly capital market adjustments could also result (capital market issues are explored in more detail in Chapter 9).

B 60% of CPI Increases

This formula is one of several possible variations (e.g. 50% or 75% of CPI increases) which are classed as 'partial' inflation protection. Generally, the higher the percentage of CPI increase used in such a plan, the closer the consequences are to those of full inflation protection.

Partial inflation protection was advocated by the former Government of Ontario in its 1984 White Paper. Many employer representatives making submissions to the Task Force also expressed a preference for partial as opposed to full inflation protection. The rationale for partial inflation protection, to them, is in part related to the belief that pensioners' needs decline as they age. The needs of the elderly are discussed in Chapter 6.

If it were true that individuals' needs declined as they aged, some decline in benefits, or 'tilt', would be appropriate. That is, rather than a formula with full inflation protection and a lower initial pension, it would then be desirable for the retiree to receive a higher real income immediately after retirement, with some decline in purchasing power over time.

In addition, many submissions to the Task Force stressed that public pensions (OAS, CPP) are fully indexed. Because of this full indexation of public pensions, the CPI linkage factor can therefore be reduced for employment pensions. For example, if an individual retires in October 1987 at the age of 65, having worked for 35 years at the average industrial wage, he or she would earn $9,960.00 per year in public pensions (OAS, CPP) and approximately $11,830.00 from a private pension. This assumes a final average wage of $26,000 (which approximately equals the Average Industrial Wage), times 1.3% for each year of service. Therefore the total pension income the first year would be $21,790.00 per year. Figure 5.1 illustrates the effect that a 5 per cent inflation rate would have on a person's total pension income over twenty years. In twenty years time, assuming no ad hoc adjustments, the real value (measured in 1987 dollars) of this individual's pension income would be $14,200.00. This is because public pensions, which are fully indexed, account for nearly half of this retiree's total pension income to begin with, a proportion that rises rapidly. Therefore, if the private pension portion of pension income was indexed to, say, 60% of CPI, this individual's total pension income, including public programs, would be indexed to a much greater extent than 60%. The same pension in twenty years time would then be worth $17,860.00 in 1987 dollars.

Yet even if some tilt is desirable, there is a problem with partial inflation protection which arises from uncertainty. Because the rate of inflation is unpredictable, particularly beyond the very short run, the tilt in the real stream of pension payments is also uncertain. The basket of goods and services the pension can buy will get smaller and smaller over time, but no one can predict how quickly.

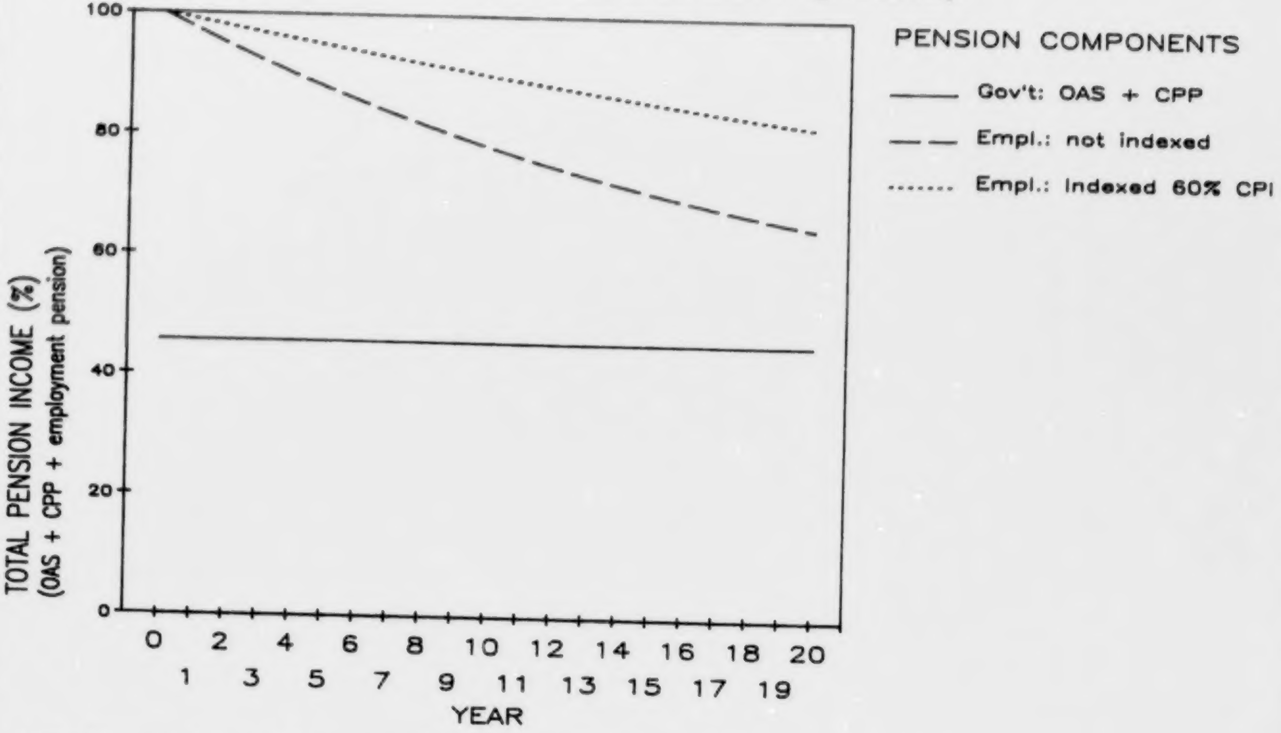
One could attempt to use history as a guide. Consider an individual retiring in 1970 with an employment pension of $1,000 per month. Without any inflation protection, the real value of the employment pension by 1985 would have declined to $312 (Figure 5.2). In other words, by 1985, the employment pension would be capable of purchasing a basket of goods and services only 31 per cent as large as that which could be purchased in 1970. With partial inflation protection equal to 60% of CPI, the real value of the pension by 1985, fifteen years later, would have fallen to $620, or 62 per cent of its value in 1970. In view of this experience, could an individual retiring in 1985 expect that, with the 60% of CPI formula, by the year 2000 (fifteen years later) the employment pension would be capable of purchasing 62 per cent of what it could buy in 1985? The problem is that, as history has shown, the inflation rate may be very different in one 15-year period than in another. As a result, the expected buying power of the pension in the year 2000 is very uncertain.

This uncertainty will be reduced the higher is the percentage of the CPI used in the formula. If the formula were 75% of CPI, the expected tilt would

FIGURE 5.1

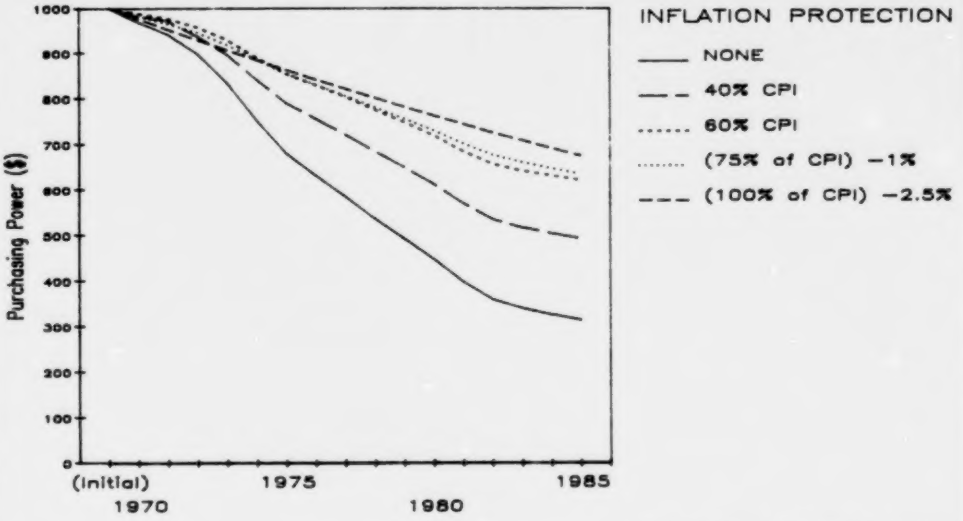
Real Purchasing Power of Total Pension With Annual Inflation of 5 per cent

(Employment pension on top of government pension)



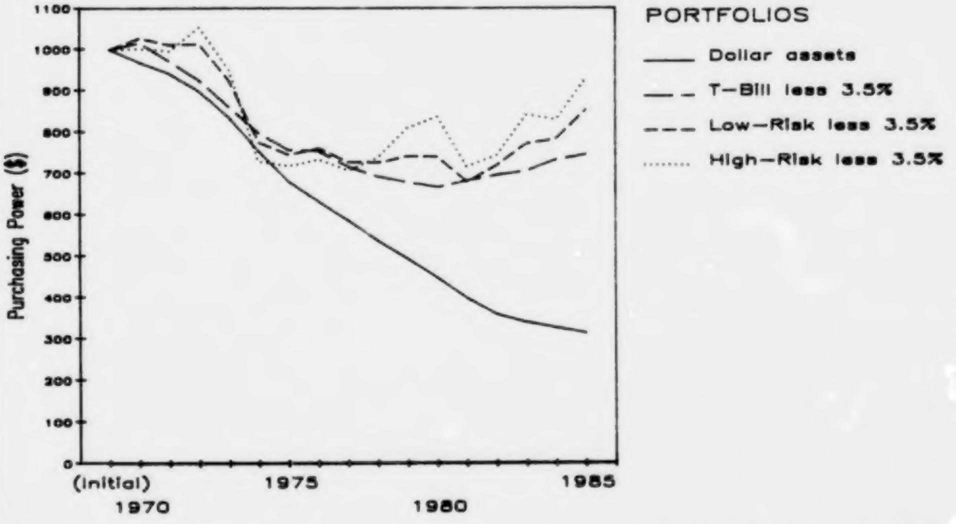
Employment pension: maximum allowed at Average Industrial Wage

FIGURE 5.2
CPI–Linked Formulas



Data provided by Dr J.E. Pesando

FIGURE 5.3
Excess Earnings Formulas



Data provided by Dr J.E. Pesando

be less uncertain than with 60% of CPI. If the formula were 50% of CPI, the expected tilt would be even more uncertain.

What about the plan sponsor? As in the case of full inflation protection, the plan sponsor is subject to some uncertainty as well. If the rate of inflation increases, the 'real value' of the pension fund (after accounting for inflation) falls. At the same time pension benefits are raised in accordance with the 'partial' formula. Since the inflation protection formula is partial rather than full, the real cost (in inflation-adjusted terms) of benefits actually declines as the rate of inflation increases. Usually this decline partially offsets the negative impact of inflation on pension fund asset values. As a result, partial inflation protection exposes the plan sponsor to less risk than does full inflation protection. There will consequently be less of an incentive for the sponsor to shift his portfolio in favour of short-term securities and less inclination to switch from a defined benefit to a money purchase plan, though the cost to individual plan sponsors in particular situations may still be considerable. Cost estimates for partial inflation protection are presented in Chapter 8.

To summarize: partial inflation protection provides a pension which is expected to be capable of buying less and less over time. Because of the full indexation of public pensions for many individuals, a 60% of CPI formula provides considerably more than 60% indexation of the total pension. The basic difficulty for the retiree is that it is virtually impossible to predict the rate at which the purchasing power of the pension will decline. Thus, the retiree is exposed to considerable risk. At the same time, however, the risk to the plan sponsor, while clearly not insignificant, is somewhat more manageable than that imposed by full inflation protection.

C (100% of CPI) -$2^1/_2$%

Such a formula has been called 'full inflation protection subject to a deductible'. The size of the 'deductible' can of course be varied. Generally, the smaller the deductible, the closer the consequences are to those of full inflation protection.

This formula was recommended in the report of the Parliamentary Task Force (Frith Committee). The rationale for such a formula is quite simple.

There is a general belief, which is not supported by the findings of the Task Force in Chapter 6, that the needs of the elderly tend to decline over time. Apart from this, there is a widespread conviction that individuals should shoulder some of the responsibility of saving for retirement. As a result, the argument goes, individuals should not be completely insulated from the effects of inflation.

Unlike a partial inflation protection formula, where the 'tilt' in purchasing power is highly uncertain, with full inflation protection subject to a deductible, the tilt is almost completely certain. As long as inflation exceeds 2.5 per cent, the pension's purchasing power is certain to decline by 2.5 per cent per year. This is the case whether inflation is 2.6 per cent or 12 per cent.

Consider an individual retiring in 1970 with an employment pension of $1,000 per month. The real (inflation-adjusted) value of this pension would have fallen to $674 by 1985 (Figure 5.2). In other words, in 1985 the pension would only buy two-thirds of what it would buy in 1970. However, another individual retiring in 1985 with this formula would know with certainty that by the year 2000 the pension would be able to buy at least two-thirds as much as it could in 1985 (and would buy more if inflation ever fell below 2.5 per cent). Planning in the retirement years is clearly much easier with this formula than with partial inflation protection.

For the plan sponsor, this formula is probably more desirable than full inflation protection since it costs less. However, the sponsor is subject to greater uncertainty than with partial inflation protection, and at very high rates of inflation this formula would be only slightly less costly than full inflation protection. Unlike the case of partial inflation protection, the real (inflation-adjusted) value of pension liabilities does not decline further as the rate of inflation rises if the initial inflation rate exceeds the deductible. As a result, there would be an incentive for plan sponsors to shift their pension fund portfolios towards shorter-term securities. Pension fund investment earnings would decline, since shorter-term securities tend to earn lower rates of return than long-term securities.

Thus, the same potentially disruptive and costly capital market response as with full inflation protection could result from this formula. In addition, full inflation protection subject to a deductible would create a strong incentive for employers to convert from a defined benefit to a money purchase plan.

To summarize: full inflation protection subject to a deductible essentially removes all employee uncertainty about the purchasing power over time of the employment pension. Unlike full inflation protection, this formula generates a pension which is capable of purchasing less and less over time. Unlike partial inflation protection, the rate of decline in purchasing power over time can be predicted with certainty. For the plan sponsor, there is considerable uncertainty about cost. Full inflation protection subject to a deductible exposes the sponsor to significantly more risk than does partial inflation protection.

D (75% of CPI) -1%

This formula might be denoted 'partial inflation protection subject to a deductible'. It is a hybrid of partial inflation protection and full inflation protection subject to a deductible.

This formula has been adopted in a particular way in the federal Pension Benefits Standards Act, S. 21 (5), which exempts from the 50% employer contribution rule all sponsors who provide inflation protection of deferred pensions at this level. The present analysis is based on the use of this formula for all pensions being paid.

Because the protection is partial, the expected tilt in purchasing power is uncertain. However, since the CPI linkage factor is 75%, the retiree's uncertainty associated with the expected tilt is more modest than with a 60% formula. In addition, because of the full indexation of public programs, the effective indexation of the entire pension is much higher than 75%.

Similarly, because the formula is partial, the sponsor's risk is considerably smaller than with full inflation protection subject to a deductible. As we shall see in Chapter 8, an employer's costs with a hybrid formula are less variable than with a purely partial or a purely deductible formula over different levels of inflation.

The formula might be viewed as a compromise. It is sensitive to retirees' needs for certainty (by making the linkage factor 75% rather than 60%), but also reflects sponsors' needs for some protection against very high inflation (by making the factor 75% rather than 100%). The 1% 'deductible' makes the formula less costly to sponsors than a 75% of CPI partial formula, without increasing retiree uncertainty about the real value of their pensions. The likelihood of conversions to defined contribution plans is more modest than with full inflation protection subject to a deductible.

Although this particular formula was not recommended by any of those making submissions to the Task Force, a similar formula was advocated by the Retail Council of Canada, which suggested ($^2/_3$ of CPI) -$2^1/_2$%. As stated by the Retail Council: 'Such a system provides that employees effectively bear the brunt of inflation for the first stage of inflation with the employer committed to covering inflation for some percentage of the excess.' The hybrid formula is thus sensitive to the needs of both employers and retirees. The concept of (75% of CPI) -1% recognizes the standard insurance principle of having both a deductible and a sharing of risk.

One major Canadian retailer, Sears Canada, has recently implemented a formal indexation scheme utilizing a similar formula. The particular formula chosen was (75% of CPI) -2%, with a cap of 12% per annum. Further, if salaries in the corporation increased at a lower rate than that indicated by the formula, the salary increase would be the maximum increase. Again, in implementing the formula the retailer noted that a hybrid formula achieves reasonable cost containment while simultaneously recognizing the need on the part of retirees for a reasonable degree of certainty.[2]

To summarize: the hybrid formula has some of the characteristics of partial inflation protection, and some of the features of full inflation protection subject to a deductible. For a given level of cost, the hybrid formula can provide greater retiree certainty than partial inflation protection (by increasing the CPI linkage factor and simultaneously including a deductible).

II EXCESS EARNINGS FORMULAS

Unlike linkage to the CPI, the excess earnings approach to inflation protection involves adjusting pension payments according to the return earned on a specified capital market portfolio. The link to inflation (i.e. general price increases) is therefore indirect. The notion is that the return earned on capital market assets (including stocks and bonds) incorporates the rate of inflation. In particular, the theory is that the 'nominal' return (actually earned) can be divided into an underlying 'real' return plus an 'inflation premium'. Thus, if the rate of inflation rises, the return on capital market assets rises by a corresponding amount. Plan sponsors are therefore able to finance the required adjustments for inflation protection, since the pension fund's earnings incorporate an inflation premium. If the pension plan is costed on the basis of the 'real' interest rate, the theory suggests that the required cost-of-living adjustments would impose no additional costs on plan sponsors. The underlying rationale, therefore, is to protect plan sponsors from excessive costs.

The main problem with the excess earnings approach is that the adjustments may not track actual inflation adequately. There are several reasons for this. First, the 'inflation premium' built into an asset's return reflects average inflation over the term of the asset. Actual inflation experience in any given year is likely to deviate from the inflation premium. Although long-term inflationary trends are incorporated, important short-term fluctuations are not reflected in the inflation premium on long-term assets. Second, the theory underlying the excess earnings approach fails to distinguish between anticipated and unanticipated inflation. An unexpected rise in the inflation rate will not be reflected in the return earned on existing assets. Pensioners will suffer an unexpected erosion in their real purchasing power in such cases, because there will be no excess earnings with which to finance cost-of-living adjustments.

Another explanation for the poor tracking of inflation relates to the underlying 'real' component of asset returns. This real return tends to decline whenever the rate of inflation unexpectedly rises. For example, in the early 1970s, inflation increased much more quickly than interest rates. As a result, the excess earnings approach would adjust pensions for inflation in an unpredictable manner, often failing to make adjustments when inflation actually increases.

This weakness of the excess earnings approach was pointed out in many submissions to the Task Force. Both employee groups and those advocating employer-oriented positions criticized the approach for its failure to track inflation adequately. Many have also indicated that the excess earnings approach is not easily explained to employees or retirees and may be misunderstood.

At the same time, many other submissions advocated some variant of the excess earnings approach. Indeed, some employee representatives appeared to be satisfied with the capacity of the approach to deliver adequate inflation protection.

As a result, the Task Force has given careful consideration to four capital-market-based formulas. The first two formulas involve linkage to a portfolio 'external' to the plan sponsor, while the latter two link cost-of-living adjustments with the actual performance of the sponsor's portfolio.

A CAPSA Excess Interest

The approach suggested by CAPSA, and advocated in the Government of Canada's 1982 Green Paper (outlined in Chapter 4) involves linkage to the bond market. In particular, the annual cost-of-living adjustment would be equal to the average interest rate over the last five years on long-term Canada bonds minus 3.5 per cent. Since the release of the Green Paper there has been considerable discussion (mostly critical) of this formula. (CAPSA also recommended a retroactive adjustment to past service credits based on the five-year moving average interest rate on long-term Canada bonds minus 7 per cent. The impact of retroactivity is discussed separately in Chapter 11).

History shows that the 'guide rate' (the five-year moving average interest rate on long-term Canada bonds) tracks inflation poorly. This means that the real purchasing power of a retiree's pension may decline sharply in any given year. Indeed, if the CAPSA formula had been in place over the past 15 years, there would have been sharp fluctuations in the purchasing power of employment pensions. By 1985, the pension of someone retiring in 1970 would be capable of buying only 77 per cent of what it could buy in 1970.[3] During the period 1972-77, the purchasing power would have declined by 19 per cent. A further 16 per cent decline would have followed over the next five years. However, beginning in 1983, the purchasing power would have begun to increase every year up to and including 1987.

To the extent that history is a guide, therefore, the CAPSA formula leaves the retiree with substantial uncertainty about future purchasing power. The real value of the pension might fall (as it did in 1972-82), or it might actually rise (as it did in 1983-87). In short, the purchasing power of the stream of retirement income is very uncertain, making retirement planning very difficult.

What about the plan sponsor? Unlike CPI-linked partial inflation protection, where plan sponsors face little uncertainty and retirees face great uncertainty, in this case both plan sponsors and retirees face substantial uncertainty. A plan sponsor holding the guide portfolio (i.e. long-term Canada bonds), would not be immunized from inflation risk. This is because the guide rate is the interest rate and not the return or yield on these bonds. Whenever the interest rate on newly issued long-term bonds increases, the holder of existing long-term bonds suffers a capital loss. At the same time, the liabilities of the pension fund increase because the CAPSA formula incorporates these higher interest rates. In effect, the sponsor is required to underwrite the capital loss suffered whenever long-term interest rates rise. By the same token, if long-term rates fall, the sponsor reaps a capital gain just when the formula lowers the required cost-of-living adjustment. If sponsors wish to avoid this variability, they could switch to shorter-term securities such as Treasury Bills. However, this shedding of risk will entail foregoing investment income, since Treasury Bills earn a lower real return. Such possible capital market adjustments are examined in greater detail in Chapter 9.

To summarize: the CAPSA formula subjects retirees to considerable risk, since the guide rate tracks actual inflation very poorly. At the same time, sponsors are exposed to considerable uncertainty, since holding the guide portfolio does not shield them from risk. In fact, no one making a submission to the Task Force advocated the CAPSA formula.

B Yield on Treasury Bills Less 3.5%

This formula has been suggested in response to the CAPSA formula in order to reduce uncertainty for both the retiree and the plan sponsor. A T-Bill formula was advocated in some of the submissions to the Task Force.

The T-Bill approach reduces uncertainty for retirees because Treasury Bill yields track actual inflation far more closely than does the interest rate on long-term Canada bonds. This close link between T-bill yields and inflation is well recognized. Indeed, escalating annuities recently introduced by a major Canadian insurance company, and intended to protect retirement incomes from inflation, are based on Treasury Bill yields.[4] In short, linkage to Treasury Bill yields provides cost-of-living adjustments which are more closely aligned with actual inflation than those provided by the CAPSA formula.

However, unlike full inflation protection subject to a deductible, some uncertainty does remain, because real rates of return on Treasury Bills do vary (and because these real returns are weakly correlated with inflation). The expected tilt in purchasing power will thus be uncertain. This expected decline will depend, of course, upon the deductible base rate, which could be 3.5% but could also be set either higher or lower. If the base rate were set at 3.5%, a person who retired in 1970 would have found that, by 1985, the pension would be able to buy 75 per cent of what it could buy in 1970. However, the real value of the pension would have fallen steadily from 1970 to 1980 (falling to only 67 per cent of its original value in 1980) and then risen steadily from 1980 to 1985. Thus, not only is the expected tilt uncertain, but there are also periods in which purchasing power could increase (Figure 5.3). By the same token, the T-Bill formula resulted in very sharp declines in purchasing power during the early 1970s. Thus, some retirees receive increasing purchasing power in some periods and others suffer declines in other periods. The T-Bill formula sometimes provides 'too much' inflation protection and at other times too little.

What about the plan sponsor? As indicated above, the CAPSA formula subjects a sponsor who decided to hold the guide portfolio to considerable inflation risk. A T-Bill formula, in contrast, allows sponsors to immunize themselves from inflation risk simply by holding the guide portfolio (i.e. T-Bills). Clearly, then, sponsors would prefer the T-Bill approach, since it gives them the option of immunizing. However, some sponsors might choose to hold a more risky portfolio, since the real return on T-Bills is very low.

To summarize: the T-Bill excess earnings approach gives retirees cost-of-living adjustments which track inflation better than the CAPSA formula, though still imperfectly. Indeed, the T-Bill approach sometimes causes pensions to decline very sharply in purchasing power terms, while at other times purchasing power may actually increase. The T-Bill approach does allow plan sponsors to immunize themselves from investment risk. If plan sponsors choose to immunize, however, the lower yield of T-Bills would serve to increase the costs of the plan.

C Fund Yield Less a Stated Percentage

This formula adjusts pensions each year according to the actual fund investment earnings minus a stated percentage, often specified as 3.5 per cent. (The 3.5 per cent figure is used in the cost analysis in Chapter 8). Unlike the excess earnings formulas considered thus far (and unlike CPI-linked formulas), the present formula is not uniform across plans. Members in plans earning high returns will have higher cost-of-living adjustments than those whose plans earn lower returns. Such a formula essentially turns a defined benefit plan into a money purchase plan with a 'floor' (since the defined level of benefits is still guaranteed, irrespective of fund earnings).

The impact of this formula on retirees would, of course, vary from plan to plan. If a particular sponsor chose a portfolio of Treasury Bills, the inflation protection delivered would be identical to that given by the T-Bill formula discussed above. Alternatively, the sponsor might choose a portfolio consisting of T-bills, stocks, and bonds. Consider a relatively 'low risk' portfolio consisting of 50 per cent T-Bills, 25 per cent stocks (for example the TSE 300 index) and 25 per cent long-term Canada bonds. With a 3.5% base rate, an individual retiring in 1970 with a $1,000 pension would find the real value of the pension in 1985 had fallen to $853.[5] In other words, the pension would be able to buy 85 per cent of what it could have bought in 1970 (Figure 5.3).

This may seem to be relatively 'good' inflation protection. However, the year-to-year variability in purchasing power would have been considerable. The real value of the pension would have declined precipitously in the early 1970s. In 1981, its purchasing power would have been only 68 per cent as large as it was in 1970. During 1981-85, however, the purchasing power of the pension would have increased sharply. As with the other excess earnings formulas considered so far, the 'inflation protection' in this formula is sometimes completely inadequate.

If the sponsor held a 'high-risk' portfolio (25 per cent T-Bills, 25 per cent long-term Canada bonds, and 50 per cent stocks [the TSE 300 index]), the year-to-year variability in purchasing power over 1970-85 would have been even more pronounced (Figure 5.3). The pension that was worth $1,000 in 1970 would have fallen to 72 per cent of its original real value by 1981, only to recover to 93 per cent of its initial value by 1985. Based on the 1970-85 period, the individual retiring in 1985 would be entirely incapable of predicting with any degree of confidence the real purchasing power of his or her pension in 5, 10, or 15 years' time.

The plan sponsor might consider this formula to be attractive. Since the formula depends on fund earnings, the sponsor bears no additional investment risk. Nor is there any risk that an infusion of corporate capital will be required. Alternatively, the sponsor might consider the overall defined benefit 'deal' to be unattractive, because if investment returns are very poor, the sponsor continues to be obliged to pay the promised defined benefit.

On the other hand, sponsors are not likely to be overly concerned about the cost implications of an internal excess earnings formula. The sponsor's uncertainty is minimized, since, even if his fund performs very poorly, his costs will not be directly increased by mandatory inflation protection. Moreover, the retiree's uncertainty can be minimized by setting the guide rate equal to the average fund return over several years. Such smoothing procedures are utilized in a number of existing excess earnings plans, for example at Queen's University.[6]

To summarize: updating pensions by the actual fund return less a stated percentage would provide 'inflation protection' which could vary considerably from year to year and from plan to plan depending upon the sponsor's investment strategy. The retiree would be exposed to much uncertainty. These conclusions are supported by the computer simulations conducted by Professors Frank Denton and Byron Spencer and described in their research study, 'Inflation Protection and Economic Security in Retirement' contained in Volume 1 of the Research Studies. Their findings illustrate that excess earnings pension adjustments are highly sensitive to the choice of guide rate, as well as the rate of return within the fund. The plan sponsor might also find some aspects of the formula less attractive, since it removes some of the direct rewards for sound fund management. Still, the formula considerably reduces the sponsor's risk. Generally, plan sponsors would probably find such a formula acceptable, particularly if the base rate were set relatively high.

III CAPS AND OTHER FORMULA OPTIONS

A Maximum Adjustments ('Caps')

Many have argued against mandatory inflation protection because it imposes open-ended costs on plan sponsors. To permit the sponsor to know the extent of his liability even in a 'worst case' scenario, many have suggested 'capping' the mandated cost-of-living adjustment required in any given year. Most of those suggesting caps in submissions to the Task Force were employers. Interestingly, the suggested levels of maximum adjustment ranged from 3% to 12% of the previous year's pension. Others suggested caps of 5% and 6%. The 'cap', as the term is used in this report, is the maximum adjustment to pensions, not the inflation rate at which the constraint becomes effective. Thus, a cap of 8% with a 50% inflation protection formula means that the cap does not bind until inflation exceeds 16 per cent. (The term 'cap' can also apply to the inflation rate itself.)

Another possibility is to have a cap related to capital market returns on a specified portfolio. The federal Parliamentary Task Force (the Frith Committee) recommended the use of a cap related to financial indicators such as the TSE 300 and yields on long-term bonds. Such a cap might serve to offset the incentive for sponsors to shift their investments towards shorter term assets if inflation accelerates.

Finally, the cap could be related to movements in wages and salaries. The Frith Committee recommended the use of the lesser of two caps, one linked to capital markets, the other to wages and salaries. In addition, Sears Canada recently introduced contractual inflation protection that includes a cap related to salary increases within the corporation.[7] The rationale for such a cap is the view that retirees should not be immunized from inflation when workers are suffering reductions in purchasing power.

Quite apart from the level of the cap, another possible feature is a 'rollover'. This involves 'banking' inflation adjustment credits if actual inflation exceeds the cap. Suppose, for example, the cap is 7% and the prescribed formula would have resulted in a 9 per cent adjustment in the absence of the cap (eg. 15 per cent inflation with a 60% CPI formula). A rollover system would involve 'banking' 2 per cent, which could be used whenever inflation declines to a level producing an adjustment below the cap. Thus, if, during the next year, inflation produced a required adjustment of 5 per cent, the 'banked' 2 per cent would be 'withdrawn', so that pensions would be adjusted by 7 per cent that year. An 8% cap with this 'rollover' feature is incorporated into the Ontario public service and the teachers' pension plans. The concept of a cap and rollover appears to be broadly acceptable to both employee and employer groups.

For retirees, any cap increases the uncertainty about the purchasing power of their pension and limits the increase at the very time it is most needed. Needless to say, the extent of this increased risk is related to the level of the cap. A 12% cap is obviously much less likely to be operative than a 3% cap. In addition, if a rollover feature is included, then the extent of the increase in uncertainty is minimized. The Ontario Teachers' Federation views its 8% cap with a rollover as 'a timing mechanism rather than a protection limit'.[8] On the other hand, a rollover is less effective if the cap is low, because the retiree might never be able to 'withdraw' from the 'bank'.

The importance of a cap depends on the formula adopted. For example, a 6% cap will be operative in more cases with full inflation protection than with partial inflation protection equal to 60% of CPI. From the sponsor's perspective, a cap is also more significant with a more onerous formula, because the sponsor's risk with a partial formula grows less pronounced as the protection percentage is lowered and the formula departs more significantly from full inflation protection.

If sponsors moved in large numbers to short-term securities to fund pension plans because of a need to provide inflation protection for benefits, the effects could disrupt capital markets, as we shall see in Chapter 9. To the extent that a cap is viewed as a way of avoiding such capital market repercussions, the rationale for a cap is weaker if a partial formula is adopted, because a partial formula is less likely to create incentives for sponsors to move to shorter-term securities than is a full formula. As discussed in Chapter 2, the conversion of defined benefit plans to money purchase arrangements is also less likely with a partial than with a full formula, so that to the extent that a cap is intended to preclude such conversions, the case for a cap is stronger if the formula is more 'onerous'.

B Minimum Adjustments ('Floors')

Most of those involved in the pension indexing debate, including employers and employees, have generally understood 'inflation protection' to mean escalation of the dollar value of pension payments to reflect inflation. There seems to be a broad consensus that, even if the inflation-protection formula selected would result in a reduction in the dollar value of pensions, such a reduction would never be mandated, although it could be taken into account in any 'rollover' scheme, discussed in the previous section. Thus it seems reasonable to suggest that, whatever formula is selected, an explicit provision should be included to the effect that the formula would never be used to reduce the dollar value of pensions.

C 'Slices'

Any mandated level of inflation protection is intended to be viewed as a 'minimum standard'. In light of this, many have suggested that the provision should not apply to those who can 'take care of themselves'. In particular, some would argue, individuals with $60,000 employment pensions do not require inflation protection on their entire employment pension income. One solution that appears attractive at first blush might be to apply the prescribed formula to pension payments up to the Average Industrial Wage or some multiple of it.

However, an individual with income from several pension sources is then difficult to deal with. The new portability rules will increase the frequency of this situation, since more individuals will have multiple sources of pension income. To isolate those individuals who 'need' inflation protection more than others would require a considerable amount of administrative investigation. For each retiree, the sponsor would somehow have to determine what portion of the employment pension is to receive the prescribed inflation protection. Presumably this would entail detailed reporting from Revenue Canada. Thus, to require inflation protection on only a portion of pension income would create some serious administrative difficulties. These difficulties would be magnified if a 'progressive' formula were desired, in which inflation protection would be higher for pensions up to a certain level.

Moreover, it is not entirely clear that differential treatment of different 'slices' of income is desirable. As noted in Chapter 2, a principal concern of the Task Force in connection with defined benefit plans is the arbitrary redistribution of income that accompanies inflation, a concern that relates more to 'fairness' than to 'need'. The income redistribution of inflation moves resources away from retirees in favour of active workers, plan sponsors, or both. This weakens the rationale for exempting the individual with a substantial pension from mandatory inflation protection.

IV CONCLUSION

Inflation protection can be implemented through many different formulas with a variety of features. In this chapter we have analysed representative models from a fairly theoretical point of view. Some models involve more significant cost-of-living adjustments than others. Some create more uncertainty for retirees than others. Some models are more risky to sponsors than others. Chapter 8 presents actual cost estimates for the models described above. To select an appropriate formula, the considerations in this chapter must be integrated with the information on costs in Chapter 8, in light of issues examined in subsequent chapters.

NOTES

1. See James E. Pesando's study in the Research Studies, Volume 1, 'Assessment of Alternative Formulas for Delivering Inflation Protection', Table 3.1.
2. See Transcript of the Task Force's Public Hearings, at p. 830.
3. See Figure 5.3 and Pesando, supra, note 1, Table 4.3.
4. Sun Life of Canada, pamphlet, 'Could your lifestyle survive on a fixed income?'
5. See Figure 5.3 and Pesando, supra, note 1, Table 4.2.
6. Pesando, supra, note 1.
7. See Transcript of the Task Force's Public Hearings, at p. 830.
8. Ontario Teachers' Federation, submission to the Task Force on Inflation Protection for Employment Pension Plans.

CHAPTER 6

Alternative Inflation Indexes and the Needs of the Elderly*

This chapter consists of two parts. The first examines alternative inflation indexes. The choice of index is particularly important if complete 100% inflation protection is to be provided, since the alternative indexes do not move at the same pace. However, if less than 100% inflation protection is to be provided, then the subtle differences between the various indexes will usually be lost in the blunt approximation of the formula. If pensions are to be increased as inflation occurs, which of the alternative indexes of inflation is most appropriate? Should a wage index rather than a price index be used? Should a new price index be constructed in accordance with purchasing patterns of the retired rather than those of the general population? Should a new price index be constructed in accordance with price changes within Ontario? Or is the Canadian Consumer Price Index adequate?

The second part of this chapter examines the needs of the retired and whether people's needs diminish with retirement and the aging process. If needs do diminish with retirement and the aging process, some might use this finding to justify a certain reduction in the real value of pensions over time, that is, to justify inflation protection of less than 100%. In view of this possible rationale for accepting a rate of decline, or 'tilt', in the real value of pensions, we compare the income, asset, and expenditure patterns of various age groups with those of the retired.

---

* *This chapter draws upon the statistical analyses found in the study in Volume 1 of the Research Studies by Professors Frank Denton and Byron Spencer, 'Inflation Protection and Economic Security in Retirement'.*

I WAGE AND PRICE INDEXES

A Wage Indexes

Should pensioners share in the gains from economic progress? Over time, there are increases in the general productivity of the economy associated principally with the development and application of new technology. These gains are directly evident in the work place, but their origin may be elsewhere: in basic research carried out in the universities, in improvements in knowledge and skills conveyed through the tax-financed educational system generally, and in new technology. The working population and its dependents share in the gains through higher general wage levels. Should the retired population also share?

The question is not primarily an economic one; it is political or ethical. What makes it so important in the present context is that the answer to it bears directly on the choice between price indexing and wage indexing. Full indexing for price changes would maintain the same absolute purchasing power to acquire goods and services as when a pensioner retired. On the other hand, indexing for wage changes would maintain the same relative purchasing power, compared with the average Ontario employee.

Suppose, for example, that the general price level rises at 7 per cent per year and the general wage level at 8 per cent, implying a 1 per cent per annum gain in real wages. A pension fully indexed for price change would have the same absolute purchasing power ten years after retirement, but relative to the general standard of living (as reflected in the wage level) its purchasing power would have declined by 9.5 per cent. Twenty years after retirement, the pension's relative purchasing power would have declined by 18 per cent.

The desire for pensioners to share in Ontario's future economic progress, by having an inflation protection formula based on a wage index, must be accompanied by a preparedness to share in future economic declines. There have been years when wage indexes have not risen as rapidly as prices. At such times, an inflation protection formula based on a wage index would entail decreases in the real purchasing power of pensioners. However, in the long run, wages have historically risen more rapidly than prices, reflecting the long run economic progress of Ontario.

If a wage-related rather than a price-related indexing formula were to be chosen, the most obvious source of an indexing standard would be the Statistics Canada monthly Survey of Employment, Earnings and Hours. This survey provides a series of average weekly earnings covering most of the industrial spectrum and a series of average hourly earnings on the same general basis. The hourly and weekly series may show some differences in their movement, but their general trends are unlikely to differ greatly. Certainly both types of series will reflect general wage inflation and also general productivity increases. The average weekly earnings series and the average hourly earnings series are available for Ontario, as well as for other provinces and for Canada as a whole. A decision about which series to use would have to be made, but the series are available on a relatively timely basis, and any one of them could readily be incorporated into an indexing formula. In practice, the percentage movements of the different earnings series are likely to be very similar, and there appear to be no strong reasons for preferring one over the other.

B Price Indexes

The all-Canada Consumer Price Index (CPI) is, of course, the best known price index and the one most commonly used for indexing wage contracts, insurance contracts, and those pension plans for which indexing is already in effect. It is prepared and published monthly by Statistics Canada and is available a few weeks after the end of the month to which it applies. It is reasonable to ask, however, whether an all-Canada index properly represents what is happening to prices within Ontario. It is also reasonable to ask whether an index calculated for all households properly reflects price effects among the elderly population.

The consumer price index, as prepared and published by Statistics Canada, is designed to provide a measure of price change over time for a representative 'basket' of consumer commodities and services purchased by Canadian households. With respect to the various age groups taken separately, Denton and Spencer note some clearly discernible differences. As seen in Table 6.1, the food expenditure proportion rises steadily with age. Also, the housing expenditure proportion is relatively high for young families, relatively low for those with heads of households in their 40s, 50s, and early 60s, and then rises sharply for those in their late 60s, and especially for those in their 70s and over. Differences of such magnitudes in the expenditure patterns might imply that the overall CPI would not be an appropriate index to use for the effects of inflation on a particular age group. In view of this, Professors Denton and Spencer have calculated age-specific consumer price indexes for a number of age groups in order to learn whether the overall CPI would, in recent years, have provided a reasonably accurate measure of the impact of inflation on the older population.

Denton and Spencer find that, in fact, the official CPI measure of inflation has differed very little among age groups, at either the Canada or the Ontario level. The finding that the measure would have been satisfactory historically, of course, does not provide complete confidence that it will be equally satisfactory in the future. However, there has been a considerable range of inflation experience over the historical period in question, ranging from a low of 2.9 per cent in 1971 to a high of 12.5 per cent in 1981. If, in the future, the CPI goes outside this range, its appropriateness for the older age groups might be reassessed. Furthermore, it would be possible to keep track of developments in a related measure of inflation now prepared routinely by Statistics Canada, namely the CPI for Low-Income Senior Citizens. The CPI measure of inflation calculated specifically for this group has moved in a manner very similar to the overall CPI over the period for which it has been calculated, as has the CPI for all low-income recipients also constructed by Statistics Canada.

Denton and Spencer's research study examines several other price indexes that could be used as an alternative to the CPI, including the National Accounts price index for consumer expenditure, a set of indexes for the cities of Toronto, Ottawa, and Thunder Bay, and a specially constructed price index for the elderly population within Ontario. They find that there is a strong case for using the all-Canada CPI if a price-based indexing formula is selected, even though it is not compiled specifically for the elderly population of Ontario. The arguments are (1) that it is a widely accepted measure of the general consumer price level and widely used in other indexing contexts, (2) that it is available on a timely basis, (3) that it is not subject to troublesome revisions, as other series may be, and (4) that it appears to reflect quite accurately price changes in different parts of the country and for different components of the population. Moreover a national index is a further step towards uniformity across Canada in pension policy.

C The Timing of Indexing Adjustments

A further issue is the timing of inflation adjustments under a general indexing scheme. Unless adjustments are made continuously, there is some loss of purchasing power during the intervals. Annual adjustments imply a greater loss than quarterly ones; quarterly adjustments imply a greater loss than monthly ones.

Suppose that the rate of inflation is 7 per cent per annum and that price increases are continuous throughout the year. This implies a monthly inflation rate of about 0.565 per cent. If pensions are price-indexed but the adjustments are made monthly, the average adjustment of a pension will be approximately 3 per cent higher than it would be if the adjustments were made once a year (i.e. in this case 7.2 per cent annually). (This 3 per cent difference, though small, means that over the years the average gap between an annually adjusted and a monthly adjusted pension grows much wider.) Similarly, if adjustments are made quarterly, the average loss of purchasing power, compared with monthly adjustments, will be about 0.6 per cent a year.

Delays in adjustments also imply some loss of purchasing power when inflation is continuous. Some delay is inevitable because the indexing series is not available instantly, and because time is required in the administrative process to put adjustments into effect. However, the point to note is that the longer the delay, the greater the average purchasing power loss.

Frequent adjustments would be more accurate, in the sense of being closer to the formula chosen, but imply higher administrative costs. Adjusting pensions yearly or perhaps twice a year would probably be satisfactory if the disadvantage were to be taken into account by the Legislature in setting the minimum formula slightly higher than it might otherwise be.

II DO PEOPLE'S NEEDS DIMINISH WITH RETIREMENT AND THE AGING PROCESS?

A The Definition and Estimation of 'Needs'

The question of 'needs' is one that has arisen frequently in discussions of inflation protection for pensioners: do the 'needs' of the elderly change as they grow older? If people 'need less to live on' at 75 or 85 than they do at 65, do they require as much protection against inflation as would otherwise be the case?

There are several observations that can be made. The first is that 'needs' are virtually impossible to define objectively in any meaningful way, aside from a definition in terms of bare survival requirements -- basic food, shelter, health care, etc. -- or perhaps some 'poverty-line' definition. Beyond definitions of that kind, the question of individual 'needs' can be answered only in relative terms; it is a highly subjective concept. The difficulties were long ago recognized in economics, and the term is little used in that discipline.

The second observation is that circumstances vary greatly among the elderly. To some extent this is the result of natural aging, but in large measure, it is also the result of particular major events: the death of a spouse, a partially incapacitating stroke or other serious health problem, the movement to another city of an adult son or daughter who previously provided day-to-day or week-to-week assistance, and so on. Popular depiction of the elderly often makes them seem relatively homogeneous as a group, but they are not. Their health status alone makes them heterogeneous: some are in good health well into their eighties or nineties; others are in chronic care hospitals or nursing homes, or continue to live by themselves but with constant daily assistance. In terms of health, the elderly are the most heterogeneous age group in the population. Any realistic discussion of what they 'need' must take that into account.

A better question to focus on than 'needs' is how expenditure patterns vary with age. To determine the connection between age and expenditure, it is important to distinguish differences in age from differences in purchasing power. For example, people may spend less money only because they have less to spend. It is therefore necessary to make allowance for differences in wealth, that is, differences in assets and incomes. The question can then be asked in two ways: (1) How does total expenditure vary? That is, given comparable incomes and assets, will an 85-year-old spend less in total than a 70-year-old? (2) How do the proportions of the total spent on different categories of consumer goods vary? That is, if the 85-year-old and the 70-year-old have equal purchasing power, will they allocate their expenditures differently among different categories of goods? These questions are tackled in this chapter.

How the tax system affects the purchasing power of older families and individuals is also relevant to an understanding of their economic circumstances and the consequences of inflation. However, it seems unlikely that tax effects would turn out to be a major consideration in evaluating the need for inflation protection; the reductions of purchasing power caused by 'normal' annual inflation rates are so immense when compounded over 10, 20, or more years that they would outweigh by far any effects attributable to the functioning of the tax system. Nevertheless, tax effects may not be negligible. At the time of writing, there is also the prospect of substantial changes in federal income and sales tax rates and regulations which may bear, to some degree, on the matter of inflation protection and on the general economic circumstances of the elderly. However, in view of the speculative and tentative nature of the proposed federal tax reforms, we have not attempted to analyse their impact on the elderly.

Price reductions, subsidies and in-kind transfers of various types are available to persons over the age of 65 and, in some cases, to persons as young as 55. These include retail discounts, subsidies for drugs, housing, municipal transportation, hospital and medical insurance, and the like. To the extent that these are defined in proportional terms (10 per cent discount, 100 per cent subsidy, for example), it is important to note that they are automatically indexed against price inflation. This is true especially of health-related subsidies. Stone and MacLean have estimated 'that the 1976 aggregate income flow to persons aged 65 and older would be at least 30 per cent above that estimated from the Survey of Consumer Finances if we were to take into account unreported money and non-money income sources'.[1] Circumstances in this regard may have changed over the past decade; unfortunately we have not found more recent estimates for Canada, although there are some for the United States, as related in the background study by Denton and Spencer. However, like tax changes, the impacts of price reductions, subsidies, and in-kind transfers are likely to be outweighed by the cumulative effects of inflation.

B The Income and Assets of the Elderly

However 'needs' are defined, it is clear that the ability of elderly individuals to satisfy them is related to wealth, that is, to income levels and holdings of assets. Denton and Spencer have examined the incomes of male income tax filers, by age group, as well as the income and asset position of families and unattached individuals, based on data from the Statistics Canada Survey of Consumer Finances. Several of their findings deserve mention. First, in every year analysed, income is highest among those in their forties and is lower among older age groups (Table 6.2). Second, however, the average income for each age group has usually increased each year.

Third, because of the general economic progress of society, the average income of each successive population in an age group exceeds the average income of older populations -- and is less than the average income of younger populations (Table 6.3). Consequently, individual incomes on average do not peak at ages 45-49, but rather five, 10, or even 15 years later, depending on the particular cohort under consideration.

Thus, the income declines that occur with advancing age are much less if one follows the spending patterns of particular individuals over several years than would appear to be the case judging only from age-group data for any one year. This is an important observation, since the actual income experience of a group of individuals through the years is much more relevant to any changes in the well-being of its members than are comparisons across age groups in any given year. For example (focusing on males in their sixties) while incomes reported for tax purposes indeed do decline with retirement, the average income of those aged 65-69 are usually 85 to 95 per cent of what they were for (approximately) the same people five years earlier, when they were five years younger. However, these data may understate the actual decline in incomes because a higher proportion of those in the older age group (presumably mostly low-income individuals) do not file income tax returns. As they drop out of the comparison, the average income of the group is left artificially high.

There is concern, of course, not only with average income levels, but also with the distribution of income and, in particular, with those in poverty. The percentage at the low end of the income range generally increases with the age of the head of the household. Furthermore, it appears to make relatively little difference whether or not one adopts a cohort perspective (that is, follows a group of individuals through the years) in this case, because the average incomes of very low-income individuals tend actually to drop further with age. However, there has been a continued decline since 1974, and especially since 1979, in the proportion of those 65-69 and 70 and over in this very low-income category, perhaps because of improved provisions of the GIS scheme, as well as the increasingly important coverage afforded by the Canada and Quebec Pension Plans.

It is important to note that the CPP was phased in over time, and so many of those who are currently retired do not receive full CPP payments. As the years go by, an ever-larger percentage of the retired will be receiving full benefits from the plan. In particular, female participation in the labour force has risen, and a growing percentage of women will be CPP recipients. Thus the CPP will likely play a larger role in the future retirement income of Canadians than it does at present. The fact that it is fully indexed to the CPI will, as indicated earlier, give considerable support to the incomes of the retired.

Purchasing power is affected by ownership of assets as well as by income levels. Consequently, it is important to consider how patterns of asset ownership vary with the aging process. As of early 1984, according to Denton and Spencer, the average reported value of total assets held by all families and unattached individuals was highest among those aged 55-59 or 60-64 and was sharply lower among those older. As we saw with incomes, the age group pattern may exaggerate the age-asset profile for any particular cohort of aging individuals. Moreover, successively older age groups will include increasingly large proportions of unattached individuals, especially single widows. Perhaps a better indication is provided by the age differences for married couples. Here we see that assets peak at age 60-64, and then fall much less sharply with age. We would expect any age-related reduction in assets experienced by a particular cohort to be still less. Indeed, as Denton and Spencer indicate, some authors have suggested that wealth does not decrease but continues to accumulate into very old age.

In examining assets, it is important to note that the largest single asset, on average, is the owner-occupied home, which represents more than two-fifths of all asset holdings, a proportion that differs little across age groups. The average values of equity in business, farm or profession and in other real estate are also substantial but decline sharply with the age of the household head.

For the retired, of course, pensions are another large component. A recent U.S. study by McDermed, Clark and Allen[2] develops estimates of pension wealth. Depending on the approach adopted, they find that average pension wealth represents as much as two-fifths of the average net worth of households with pension coverage.

With this background concerning incomes and assets, we turn to a consideration of the relationships between age and consumption expenditures.

C Age and Consumption Expenditures

It is sometimes suggested that people might be expected to spend less as they age, simply because their needs change. One might argue, for example, that expenditures on a number of work-related items of clothing, transportation and food would simply disappear after retirement. Furthermore, with more time available retired people might be able to do more 'home production' than would otherwise be possible. While the value of time spent in this way can be considerable, it is not counted as part of measured income. Perhaps also, housing and food requirements would be reduced, since typically there would be fewer dependents living in the household. Furthermore, many discounts that enhance purchasing power are available only to seniors. And so on. This has been called the 'life-cycle' theory of consumption.

On the other side, of course, one could argue that while work- and household-size-related expenditures obviously diminish, expenditures on recreation and non-business travel might be expected to increase (at least for the healthy elderly) because of the greater availability of uncommitted time. Put differently, older members of society might be expected to find alternative ways of 'spending their money' as their personal circumstances change, just as one would expect younger people to modify their expenditure patterns as they pass through earlier stages of the life cycle. This alternative line of argument might suggest, then, that the reason expenditure levels fall with age is largely (perhaps exclusively) because older people tend to have less money to spend and not because needs have changed in a life cycle.

This is a complex issue, and we can approach it here only in a rather tentative way. We start by considering the most recent information relating to age patterns of consumption, as derived from the Statistics Canada Survey of Family Expenditures. Table 6.4, prepared by Denton and Spencer, shows that average consumption expenditure is generally higher in successive age groups from 25-29 through 45-49, and then lowers for each subsequent older age group. This average expenditure pattern resembles the average income pattern discussed in the previous section. Indeed, it appears that spending units, on average, and over the entire span of ages shown, spend less than their current incomes on current consumption expenditures. Thus, many people 75 and over apparently continue to accumulate assets rather than use them for current consumption purposes.

The two largest expenditure categories are food and housing; together, they account for about 58 per cent of total expenditure for all ages combined (Table 6.1). The fraction of the budget spent on food rises with age from less than one-fifth for the youngest group shown to almost one-quarter for the oldest; however, most of the increase occurs by age 60 or so. The age-related differences appear especially large before age 60, but the patterns continue into the older years. The fraction spent on housing falls with successive age groups up to ages 55-59 and then increases sharply for the older age groups. For spending units whose heads are 70-74, more than 64 per cent of total expenditures are accounted for by food and housing, while for those 75 and over the proportion exceeds 70 per cent.

The proportional increases in expenditures on food and housing must, of course, be offset by proportional decreases elsewhere. Among older age groups the fractions of total expenditures on clothing, transportation, recreation, reading and education, and tobacco and alcohol are lower at higher ages. There is a rather small increase in the proportional allocation to health and personal care, although health care requirements undoubtedly increase with age. That is because the major age-related health care expenditures involve increased physician care, purchases of prescription drugs, and hospitalization, most of which do not appear as part of consumer expenditure because the bulk of them are covered by health insurance.

The effects of an individual's age on expenditure patterns are obscured by other factors that influence expenditure and vary between age groups. Such factors include variations in wealth (assets and income, discussed above), family size (i.e. the size of the average spending unit), the urban/rural geographic distribution, and so on. It would be desirable to eliminate these other differences from the age-group data so that the only remaining difference between age-groups was the age of the individuals composing it. By holding all other factors constant, the effects of age alone can be distinguished.

Statistical regression techniques make it possible to estimate the impact of such non-age factors in this way and to isolate the effects of age alone. As reported in their Volume 1 paper, Denton and Spencer have estimated the relationship between total consumption expenditure on the one hand and a number of 'explanatory' variables on the other. The variable of interest is the age of household head and its effect on expenditure patterns. The estimation procedure therefore holds constant the other variables, which include the region of residence, rural or urban location, community size, sex and education of the household head, and the spending unit's income. In this way we can find the effects on expenditure patterns of the age of household head alone.

The results, found in Table 6.5, suggest that total expenditure is somewhat smaller the higher the age group when income and other characteristics are held constant. However, the differences are generally rather small, except for the oldest age group.

The relatively low expenditure level estimated for the oldest age group warrants further consideration. The oldest age group includes all spending units headed by individuals who were 75 and over at the time of the survey. Thus, it is representative of a much larger range of ages than the others, and no doubt includes much greater heterogeneity in terms of the characteristics of the spending units. In particular, health status is likely to be considerably more variable for this age group than for younger groups, and this could explain at least part of the estimated difference in average expenditure level.

A recent Statistics Canada study by Louise Heslop[3] supports these findings by Denton and Spencer. Using similar statistical techniques to analyse income and expenditure data, Heslop concludes that regardless of age, those with the same income groupings spend similarly. Financial resources affect spending patterns more than age does:

> The fundamental importance of monetary resources (expenditures, income) in accounting for lifestyle patterns of the elderly has been supported consistently through the application of several analytical approaches. Age is much less of a constraint. Given the resources, the elderly would appear to seek to maintain pre-retirement lifestyles. Any declines in activities or disengagements are not significant until after 75 years of age.

III CONCLUSION

Compared to the alternative possible indexes, it appears that the CPI provides an appropriate basis for an inflation protection formula. Nevertheless, if it is decided that pension adjustments should mirror society's economic progress and productivity changes, then the average weekly earnings or average hourly earnings could be used. At this time, it seems unnecessary to design a special index for the elderly in Ontario. The choice between the various indexes becomes less important, the further one gets from full 100% inflation protection.

With regard to the needs of the retired, we have not found evidence of a diminution that would justify the acceptance of declining real value for pensions; that is, we have found no clear evidence to justify an inflation protection formula of less than 100%. The only qualification to this statement is the finding that people over 75 may, on average, spend less per capita than those under 75, other things being equal. However, circumstances vary widely among those over 75, particularly health status. Consequently, we can place little reliance on this finding as a general guide, and any decision for less than 100% inflation protection would have to flow from other reasons, such as those related to costs and funding.

NOTES

1. Leroy O. Stone and Michael J. MacLean, Future Income Prospects for Canada's Senior Citizens (1979), Institute For Research on Public Policy, at p. 24.

2. A. McDermed, R. Clark, and S. Allen, 'Pension Wealth, Age - Wealth Profiles, and the Distribution of Net Worth' (1987), Faculty Working Paper No. 105, Department of Economics and Business, North Carolina State University.

3. Louise A. Heslop, 'Factors Affecting Expenditures of the Elderly: Age vs. Income' (1986), Research Paper No. 20, Statistics Canada, at p. 36.

TABLE 6.1

WHAT PEOPLE BUY

Distribution of consumption expenditures by age of head and expenditure category, selected age groups, Ontario 1982 (percentages)

Category	All Ages	25-29	35-39	45-49	55-59	60-64	65-69	70-74	75+
Food	21.3	18.9	20.4	22.2	22.9	23.0	24.4	23.5	23.8
Purchased from stores	16.0	12.1	15.2	17.0	18.2	18.7	19.7	19.6	21.1
Purchased from restaurants	5.3	6.7	5.2	5.2	4.7	4.3	4.5	3.9	2.7
Housing	36.4	38.2	39.8	32.4	30.8	34.3	36.2	40.6	47.0
Clothing	8.6	8.5	8.5	9.8	8.3	7.9	6.7	5.6	6.6
Transportation	16.1	16.4	14.6	16.6	18.9	19.1	15.6	17.3	10.6
Health and Personal Care	4.3	4.0	4.4	4.7	4.4	4.5	4.7	4.0	4.9
Recreation Reading and Education	8.4	8.8	7.9	9.7	8.2	6.4	6.8	5.7	4.4
Tobacco and Alcohol	4.9	5.2	4.4	4.5	6.4	4.8	5.5	3.3	2.6
Total Expenditure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NOTE: Vertical distribution in columns of Table 6.4. Components may not sum exactly to totals because of rounding error. 'All ages' includes household heads under 25 as well as heads 25 and over.

SOURCE: Denton and Spencer, Inflation Protection and Economic Security in Retirement, p. 69.

TABLE 6.2

WHAT PEOPLE EARN

Average total income of all males filing income tax returns, by age, 1964-84 (1984 dollars)

Age	1964	1969	1974	1979	1984
45-49	21,081	24,671	32,185	33,364	31,962
50-54	20,315	23,693	30,776	32,510	31,301
55-59	19,595	22,137	28,545	30,450	29,602
60-64	18,143	20,225	24,993	26,965	26,165
65-69	15,656	16,071	19,075	20,826	22,236
70 +	14,729	13,245	13,213	15,325	18,381
All ages	17,147	19,292	23,503	24,648	23,873

NOTE: The figures for 'all ages' include males under 45.

SOURCE: Based on figures published in Revenue Canada, Taxation Statistics (Ottawa, various issues)

TABLE 6.3

HOW INCOME VARIES WITH AGE

Average total income for all males filing income tax returns, by age, 1968-84 (1984 dollars)

1968		1972		1976		1980		1984	
Age	Income	Age	Income	Age	Income	Age	Income	Age	Income
44	19,965	48	23,299	52	26,234*	56	24,358	60	22,002
45	19,927	49	23,238	53	25,599*	57	24,677	61	21,699
46	19,873	50	23,052	54	25,698*	58	24,769	62	20,690
47	19,697	51	22,614	55	25,939*	59	24,167	63	20,494
48	19,651	52	22,616	56	25,172*	60	23,471	64	19,195
49	19,548	53	21,910	57	24,317*	61	22,612	65	19,790
50	19,210	54	21,873	58	23,976*	62	22,126	66	19,555
51	19,341	55	22,261	59	23,331*	63	21,655	67	18,801
52	19,447	56	21,718	60	24,174*	64	20,646	68	18,458
53	19,280	57	22,065	61	22,320*	65	20,892	69	18,627
54	18,941	58	20,926	62	21,634	66	20,207	70	17,814
55	19,158	59	21,104*	63	20,887	67	19,434		
56	18,754	60	20,443*	64	20,169	68	18,220		
57	19,068	61	19,927*	65	19,173	69	18,040		
58	18,245	62	19,148*	66	17,231	70	17,373		
59	18,345	63	18,766*	67	15,958				
60	17,967	64	18,415*	68	15,558				
61	17,562	65	17,228	69	13,817				
62	17,603	66	15,553	70	13,789				
63	16,951	67	13,722						
64	16,756	68	13,384						
65	15,020	69	12,887						
66	14,103	70	12,639						
All	15,828		17,656		20,053		18,869		18,240

NOTE: Asterisk denotes peak income of horizontal cohort.

SOURCE: Based on figures published in Revenue Canada, Taxation Statistics.

TABLE 6.4

HOW MUCH PEOPLE SPEND

Average consumption expenditures per person by age of head and expenditure category, selected age groups, Ontario 1982 (dollars)

Category	All Ages	25-29	35-39	45-49	55-59	60-64	65-69	70-74	75+
Food	4,344	3,752	4,870	5,883	4,499	3,866	3,245	2,772	2,306
Purchased from stores	3,251	2,405	3,631	4,508	3,567	3,140	2,626	2,310	2,049
Purchased from restaurants	1,082	1,339	1,238	1,370	923	723	597	462	257
Housing	7,420	7,605	9,495	8,596	6,043	5,749	4,882	4,782	4,560
Clothing	1,754	1,691	2,019	2,602	1,639	1,330	889	662	639
Transportation	3,285	3,265	3,479	4,411	3,715	3,209	2,079	2,037	1,032
Health and Personal Care	872	786	1,051	1,252	873	749	630	475	474
Recreation Reading and Education	1,702	1,755	1,881	2,573	1,614	1,069	910	677	427
Tobacco and Alcohol	990	1,033	1,050	1,200	1,253	801	733	387	255
Total Expenditure	20,367	19,888	23,845	26,518	19,636	16,773	13,309	11,792	9,693

NOTE: See note to Table 6.1.

SOURCE: Denton and Spencer, Inflation Protection and Economic Security in Retirement, p. 68.

TABLE 6.5

HOUSEHOLD SPENDING BY THE ELDERLY APART FROM DIFFERENCES IN WEALTH

Estimated age-consumption expenditure levels for older one- and two-person spending units (dollars)

Spending Unit	Age of Head		
	55-59 70-74	60-64 75+	65-69
1 Person	8,411 7,802	8,246 7,396	8,273
2 Persons	12,467 12,064	12,229 10,444	12,493

NOTE: The estimated expenditure levels are based on regression analysis of data from the 1982 Survey of Family Expenses as described in Denton and Spencer's study. The expenditure levels are based on the assumption that age alone changes. Specifically the one-person spending units are males with less than grade 9 education living in a mortgage-free house in an Ontario urban area larger than 100,000 and having an income of $11,200; the two-person units include only husband and wife, with total income of $23,000 and otherwise with the same characteristics as one-person units.

SOURCE: Denton and Spencer, Inflation Protection and Economic Security in Retirement, p. 70.

CHAPTER 7

Funding, Accounting, and Tax Considerations

I INTRODUCTION

There are three different sets of pension regulations, representing three different objectives and interests:

> Funding: Actuaries and the Pension Commission of Ontario (PCO) seek to ensure that adequate funds exist to pay for all pension commitments, so they make allowance for possible unfavourable outcomes.
>
> Accounting: Accountants want employers' financial statements to include the most accurate portrayal of the employers' costs and obligations, so they focus on the 'best estimates' of the most likely outcomes.
>
> Taxation: The federal government, through Revenue Canada, wishes to encourage various forms of retirement savings but at the same time wants to prevent the accumulation of unnecessary pension funds as tax shelters.

These three sets of regulations interact and sometimes conflict, pulling pension design and funding in different directions. New rules have recently been developed in all three areas, as we shall see in this chapter, and the difficulty of predicting the consequences of these changes further complicates the pension scene. The three regulating systems will adjust to the new requirements for inflation protection in different ways that may not yet be fully understood.

Of special significance for inflation protection will be the impact of each regime's regulations on employer and employee decisions to switch from one type of plan to another. The choice of defined benefit, money purchase, or RRSP may be affected differently by each regime's regulations. In particular, it is the defined benefit plan, the most extensively regulated type, that raises the most controversial issues of funding, accounting, and taxation. At the core of these issues are conceptual difficulties in, and disagreements over, the prediction of costs for the promised future benefit levels and the allocation of these costs over time. By comparison, money purchase plans and RRSPs are comparatively straightforward, being subject to only a few rules concerning permissible investments, contribution limits, and taxation of withdrawals. It is therefore in relation to defined benefit plans, as will be seen in this chapter, that mandatory inflation protection is surrounded by complexities and uncertainties.

II FUNDING: ACTUARIES AND THE PENSION COMMISSION OF ONTARIO*

A Overview

In the era before formal pension plans, when pensions were viewed as a reward for long and faithful service which could be granted or not at the discretion of the employer, there was usually no funding during the period of active service. Benefits were paid from the employer's current revenues during the period of the employee's retirement. Even when large numbers of employers began to establish formal pension plans following the Second World War, there was no legal requirement for prefunding, although many employers did voluntarily provide a reasonable level of funding. Any prefunding that occurred was often accomplished by the purchase of benefits under an insured group annuity contract, with the insurance company bearing the investment risk.

During the 1950s and 1960s it became apparent to many employers (particularly the larger organizations) that greater flexibility and cost effectiveness could be achieved if they made their own funding arrangements with a separate pension fund being maintained and invested in marketable securities under their own direction. At the same time many other employers continued the practice of funding their plans through insured group annuity contracts. With the enactment of the original Ontario Pension Benefits Act in 1965, it became mandatory to prefund pension benefits during the active service period.

---

* *Our discussion of funding makes extensive use of the papers by Professor Keith P. Sharp, 'Pension Funding Assumptions and Pension Indexation' and by Frank Livsey and David Short, 'The Development of Funding Surpluses in Canadian Pension Plans', contained in Volumes 1 and 2 of the Research Studies.*

For an employer, a pension plan entails financial obligations over many future decades. It is important for the employer to understand the expected size and time pattern of these commitments in order to decide how best to meet them in a funding strategy. The requisite calculations are complex, and so they are performed by actuaries who specialize in this subject. The actuary's choice of funding method and assumptions does not affect the long-term cost of the plan. But the choice can determine whether, for instance, the employer's contributions for the pension fund will be maintained at a moderate level in all future years or will be low in the short term with a compensating increase for higher levels in future decades.

Sponsors' funding plans are of direct concern to employees, for whom it is important that adequate funds be available upon their retirement to provide them with the promised level of pension benefits. Ontario employees have increasingly looked to the Ontario government to ensure that plan sponsors will properly fund their pension commitments. Funding regulations have been passed under the Ontario Pension Benefits Act (OPBA), and their enforcement is the concern of the Pension Commission of Ontario (PCO). The PCO has established minimum standards for many funding considerations. Some of these standards are specified not in legislation or even in regulations but rather in internal unpublished guidelines which are changed from time to time. In the light of these guidelines, the PCO analyses each plan individually, relying heavily upon the judgments of the plan's actuaries. The certification of a plan by an actuary is a serious responsibility not only for that plan's participants, but also in the context of Ontario's legislation and the PCO's supervision.

Under both pre-1987 and post-1987 provincial pension legislation, a defined benefit pension plan must be valued by an actuary once every three years. Furthermore, the PCO requires that the employer's contribution for a given year be at least as large as that certified by the actuary as appropriate. The actuary's certificate is also used by Revenue Canada in determining whether to allow the employer's contribution to the pension plan as a business expense. Thus, the costing estimates produced by an actuary have great influence. The actuary certifies the current service annual cost and the amount of the surplus or unfunded liability, with both amounts depending on the actuary's assumptions. The value placed on a benefit promise depends on several imponderables including, for many plans, the future rate of investment return on the fund, the rate of future wage and salary increases, and the percentage of employees who will remain in their current employment until retirement. All of these are hard to predict.

In recent years, the real rates of return on most pension fund assets have exceeded the rates of return that actuaries have used in their calculations. For this and other reasons, current actuarial calculations reveal that surpluses have developed in many pension plans, with the actuarial value of assets exceeding the actuary's estimate of the accrued liability. Many observers have expressed the view that current actuarial calculations continue to underestimate future real rates of return, and that pension fund surpluses are much larger than those calculations reveal. To the degree that this view is correct, the additional liabilities that would be imposed by mandatory inflation protection can be dealt with more easily today than at some other times in the past. It remains to be seen what the impact on the actuarial value of assets will be as a result of the substantial changes in stock and bond prices that have occurred in the autumn of 1987.

B Choice of Assumptions

The Canadian Institute of Actuaries has published its Recommendations for Valuation of Pension Plans in which it lists the assumptions that an actuary must make. The precise set of assumptions relevant to a given plan will depend on its benefit structure: for example, whether it is integrated with government plans. The list is as follows:

(a) Economic Assumptions

(i) investment return

- (ii) salary increases
- (iii) development of government plans
- (iv) post-retirement pension adjustments

(b) Decremental Assumptions

- (i) incidence of normal, early and deferred retirement
- (ii) disability and disability recovery
- (iii) voluntary and involuntary termination
- (iv) mortality before and after retirement or disability

(c) Other Assumptions

- (i) family composition
- (ii) marriage: marital status at termination, death, retirement; age differences between spouses; remarriage and divorce rates
- (iii) the level of administration expenses
- (iv) election of optional forms of benefit
- (v) number of hours worked by hourly-paid employees
- (vi) the current compensation base upon which the salary increases are to apply
- (vii) future new entrants to the plan.

In deciding upon assumptions such as rates of resignation and rates of early retirement, which vary greatly from employer to employer, the experience of the employer whose plan is being valued would usually be examined. In choosing rates of investment return and rates of salary increase, historical economic statistics would be examined in the light of current market conditions. A commonly held view is that the future fund earning rate, which corresponds to the interest rate assumption, is difficult to predict accurately in the light of historical variations in yield rates. However, the 'gap' or 'spread' between the interest rate and the salary increase rate (used in final average pension plans), both of which are affected by inflation, should, over the long term, be more stable. At the present time, a common choice of a pair of interest rate and salary increase assumptions (e.g. 7%/6%) would be one in which the interest rate exceeded the salary increase rate by between $^1/_2$ and $1^1/_2$ percentage points. The choice is affected by considerations of the salary increase prospects for a particular industry and the mix of assets held by the particular fund. In particular, consideration should be given to the riskiness of assets held by a fund. The list of necessary assumptions will vary, depending upon whether one is dealing with a flat benefit, career average, or final earnings plan.

The choice of actuarial assumptions involves making a judgment designed to balance several factors. A decision about a given assumption, such as the interest rate, is made mainly with a view towards choosing a value which fairly represents the expected future value of the item. However, the actuary will wish to make it likely that the plan on termination will have enough assets to pay the accrued benefits. Thus, concern for the future pensions of the employees is likely to result in the choice of assumptions somewhat more conservative than a true 'best estimate'. Such conservatism is unlikely to be extreme, partly because the assumptions may have to be justified to the employer. Sometimes an employer's bias will be towards using conservative assumptions to make the maximum possible tax-deductible pension plan contribution. However, some employers may prefer to pay as small a pension contribution as can be justified as being sound, a desire that may have been intensified in 1987 by the moratorium on the withdrawal of surplus. The employer's influence on the choice of assumptions is limited by the actuary's professional obligation to choose assumptions which he or she regards as adequate and appropriate.

The choice of methods and assumptions depends on the purpose of the valuation. Those used for a triennial funding valuation may differ from those used in a valuation for accounting purposes or in a valuation for the distribution of assets on plan wind-up or company merger. For instance, in a wind-up situation the market value of assets is all-important, while in the funding valuation of an ongoing plan, stability of contribution levels may require that a smoothed market value of assets be used.

Keith Sharp, in a research paper prepared for the Task Force, has emphasized that the uncertainty inherent in the assumptions means the actuary's estimates of the requisite funding will only be approximations:

> Surplus cannot be measured with as much accuracy as the total in a person's bank account or even with the degree of accuracy which one might expect in a prediction of the federal government's budget deficit three years hence. In performing a valuation to determine a plan's true cost the actuary is aiming at a very fuzzy target. Fortunately, the aim can be adjusted at least once every three years ...
>
> The choice of actuarial assumptions is a matter of judgment. The choice of assumptions, as opposed to the mathematics of the funding calculations is 'a subjective realm of actuarial art'. Assumptions are chosen, and may be changed, at each actuarial valuation. The professional standards documentation of the Canadian Institute of Actuaries reads in part:
>
> > The actuarial assumptions selected should reflect the actuary's judgment of future events affecting the related actuarial value. They should take into account the actual experience of the covered group to the extent that information is available and applicable, but in recognition of the nature of a pension plan, they should also reflect expected long term trends rather than give undue weight to recent past experience. The actuary may take into account general or specific information available from other sources, including the plan sponsor, plan administrator, investment managers, accountants and economists.
>
> The professional standards documentation requires that assumptions be disclosed in the valuation report and that the actuary state that in his opinion the assumptions are 'adequate and appropriate' for the purposes of valuation.

It is important to note that errors in various assumptions and projections may tend to offset each other. In particular, in final average plans, an underestimate of the investment return may be offset somewhat by an underestimate of salary increases.

The PCO seeks to ensure that each private plan is adequately funded, and it has veto power over a plan's assumptions and calculations. Each plan must submit a report, at least every three years, concerning these, and the PCO judges these reports on the basis of legislation, regulations and its internal unpublished guidelines.

Within the remaining flexibility on assumptions, actuaries generally choose high-cost assumptions as a way of ensuring that every plan will have adequate funds to pay the promised pensions. On the ground that the misfortune of underfunding one plan would far outweigh the difficulties arising from overfunding other plans, 'prudent estimates' are seen as appropriate. Although, as mentioned earlier, the actuary's funding recommendations do not alter the true long-term cost of the plan, which depends on the actual plan experience rather than the actuary's judgments, actuarial assumptions that turn out to be overcautious will lead to an accumulation of assets, which eventually will cause a reduction in the recommended contribution rate. At the same time the growth of assets will probably influence decisions on possible plan improvements, such as inflation protection. Consequently the mandating of inflation protection may not affect plan funding to the degree that one might otherwise expect. As Keith Sharp has explained:

> Effectively, extra conservatism may be built into the assumptions as a substitute for making an explicit assumption of future indexation. This extra conservatism would be likely to be discontinued if full or partial indexation of pensions were mandated and an explicit indexation assumption would be substituted. An informal survey of several consulting actuaries indicated that the following could be regarded as a very approximate consensus view of the interest rate assumption for a typical employment pension plan:
>
> | | |
> |---|---|
> | Realistic assumption: | 8.0% p.a. |
> | With conservatism to safeguard pensions | 7.5% p.a. |
> | With additional conservatism to allow for ad hoc increases | 7.0% p.a. |
>
> Thus my estimate on necessarily scanty data is that mandatory indexation at about 60% of the rate of inflation would lead to an average increase in the interest rate assumed of about 0.5% per annum, together with the addition of an explicit assumption about future indexation. Many plans would show no increase in the interest assumption, while for others the increase would be more than 0.5%.

The cost blow of mandatory inflation protection will thus be cushioned in the case of plans with conservative assumptions. Often this implicit conservatism has provided the basis for ad hoc adjustments. Actuarial assumptions may also be influenced by the new accounting standards in ways that would further cushion the cost blow. Before examining these new accounting standards, however, we should first consider another area in which regulations could be changed, namely, the choice of funding formula and amortization period.

C Choice of Funding Formula and Amortization Period

Besides having considerable leeway in choosing assumptions, actuaries have also been free to choose between several methods of estimating costs for defined benefit plans. They have usually chosen either the 'unit credit' (accrued benefit) or the 'entry age normal' (level contribution) method. These methods differ in the rate at which the annual payments pay off the total projected pension obligation. The entry age normal method usually creates a higher funding level. A business with a young workforce will have a somewhat lower funding level under the 'unit credit' method than under the 'entry age normal' method. Thus current contribution levels, as well as estimates of surplus or deficit, will be affected by the actuary's choice of funding formula.

The choice of funding formula will affect the time pattern for spreading the additional costs of mandatory inflation protection over future years. The use of different actuarial cost methods does not of course change the ultimate obligation the sponsor is required to bear. The only issue is the allocation of costs (and funding) to time periods. Under the unit credit method, prospective inflation protection -- for only those pension credits accrued after the date of legislation -- may or may not cause any increase in accrued liability, depending on the variant of the method used. In the entry age normal method, prospective inflation protection would cause an increase in accrued liability; it would raise the level of career contributions which are averaged over the expected working lifetime, thus raising both future and past contribution targets. The prospect of inflation protection would increase current costs under all funding methods, although the time pattern of these cost increases would differ. Any type of retroactive inflation protection would result in abrupt increases in accrued liabilities, though to an extent that differed among methods and with the degree of retroactivity. Retroactivity would increase the variation in impact among plans of the time patterns chosen by actuaries for funding the costs of inflation protection.

The time pattern for funding these costs will also be affected by regulations and practices governing the amortization of any unfunded liabilities created by inflation protection. Keith Sharp has stated:

> The actuary will require the period over which the amortization payments are made to be sufficiently short that benefit security is preserved. A commonly used criterion is that the amortization period should be no longer than the average future service up to retirement age of the employees whose benefits have been improved. Thus bankruptcy of the employer should not lead to the existence of benefits promised but not covered by plan assets. Another consideration is that unnecessary inter-generational transfers should be avoided, so an unfunded liability created to benefit a given generation of employees should be amortized while that generation represents the bulk of the workforce.

Current and proposed Ontario regulations suggest that unfunded liabilities should usually be amortized over a 15-year period. However, one might argue that a longer amortization period should be permitted, because prospective inflation protection for older employees would affect only a small portion of the pension, while prospective inflation protection for younger employees would not be paid until termination of their employment, which could occur 20 or 25 years in the future. Hence the possibility should be considered of extending the amortization period required by the Ontario Pension Benefits Act for the funding of the unfunded liabilities caused by the imposition of inflation protection.

It should be noted, however, that in dollar terms, the difference between 15 and 25 years amortization is relatively small (in relation to the total current and amortized payments) if the level payment method imposed by provincial legislation is used. Using an interest rate of 7 per cent per annum, Keith Sharp found that $1,000,000 amortized by level payments at the start of each year requires $102,612 per annum for 15 years or $80,197 per annum for 25 years, a difference of $22,415 per annum. If the regulations allow for amortization as a constant percentage of payroll, then the effect of allowing a longer amortization period is slightly greater. If amortization of a $1,000,000 unfunded liability would require 15 years at a rate of 8.682% of payroll, with payments made at the start of each year, over 25 years the amortization could be at a rate of 6.194% of payroll.

An alternative approach to the funding of inflation protection and the amortization of unfunded liabilities would be to permit a non-prefunded, or 'pay-as-you-go', formula for an inflation protection account separate from the main plan fund. It is important to note that the Ontario government explicitly permits this approach under Section 3 of the present Ontario Regulation 746. This section was introduced to permit pay-as-you-go funding for Ontario civil servants and teachers.

The pay-as-you-go cost of any mandated indexation would depend very much on the form of indexation. If only pensions earned after the date of the legislation are affected, and hence only those retiring after the date of the legislation receive any increases, then in the first few years the pay-as-you-go cost could be exceedingly small. However, after a couple of decades the pay-as-you-go cost would rise dramatically, with possible repercussions on fund solvency. One way to deal with this problem would be to require that the proportion of the indexation increases which are to be funded in advance should rise from 0% to 100% over 20 years. This might result in a reasonable compromise between the acceptability of immediate cost increases and the security of the benefits. Of course, as noted earlier, such a procedure does not change the true cost of the indexation but merely changes the incidence in time of the cost.

While pay-as-you-go funding would not be in accordance with accepted 'safe funding' practices, it would allow the financial shock to employers of mandatory indexation to be spread out in time. Moreover, as Keith Sharp notes: 'there may be an argument that a somewhat insecure escalated portion of a pension is better than no escalated portion at all.' Furthermore, pay-as-you-go funding of the increased portion of indexed pensions is unlikely to meet with any objection from Revenue Canada. However, the standards of professional conduct of the Canadian Institute of Actuaries might make some actuaries unwilling to certify as 'consistent with sound principles' the pay-as-you-go funding method for the increased portion of indexed pensions.

In summary: the regulations with respect to the amortization period could specify level-dollar payments, level-percentage-of-payroll payments, both, or neither. Also, the regulations could permit indexation adjustments to be funded more slowly through an extension of the amortization period. In the extreme, pay-as-you-go funding could be permitted, although at present no private sector plans seem to use this approach.

D Funding for Excess Earnings Formulas

Rather than establishing an inflation protection adjustment as a percentage of the increase in the Consumer Price Index (CPI), some organizations have advocated an excess earnings formula. As we saw in Chapters 3 and 5, some organizations actually have such formulas in place. For an excess earnings formula geared to the return on a particular external asset portfolio, the funding issues discussed above are all relevant. The actuary must assume a rate of return on the benchmark asset portfolio and a rate of return on the pension fund in question. The gap between these must be funded by the plan.

However, a plan may stipulate that the benchmark asset portfolio should be that of the plan itself. In this case, any excess earnings will in fact be created within the plan, and these will automatically be available for distribution as inflation protection adjustments. This is a very important aspect of the funding discussion. A formula where adjustments are made in accordance with the plan's 'excess earnings' would require no supplementary funding for prospective inflation protection. Retroactive inflation protection might, however, require supplementary funding to make up for previous surplus withdrawals, funding holidays, and plan amendments. The extent of this supplementary funding would depend on the particular excess earnings formula.

E Regulations concerning Pension Fund Investments

The Ontario Pension Benefits Act provides a detailed set of regulations concerning acceptable investments by a pension fund. These rules seek to ensure that the pension fund's investments will be secure. The new 1987 Act and its regulations require the standard of 'prudence' rather than adherence to the rules governing the investments of life insurance companies.

III ACCOUNTING[*]

A Overview

Whereas actuaries' recommendations on funding affect how and when the employer actually pays the long-term costs of a pension plan, accountants' recommendations on expensing methods affect how and when those costs will appear in the employer's financial statements.

Prior to December 1986, accountants and auditors, in preparing corporate financial statements, accepted -- almost as a matter of course -- the certified calculations made by each pension plan's actuary both of the plan's long-term assets and liabilities and of each year's change in the employer's obligations. The requisite annual payments into the pension fund as calculated by the actuary were simply accepted by the accountant as the appropriate amount of annual expense. The actuary's choice between unit credit or entry age normal as the method for calculation was also simply accepted by the accountant, as was the use of a 15-year amortization of unfunded liabilities.

In recent years the size of pension commitments has increased dramatically, as have the pension funds created to meet these commitments. Consequently, chartered accountants have become more concerned about how pension fund liabilities and assets should be measured and reported in financial statements. In both Canada and the United States, new accounting rules have recently been imposed. In Canada, the Canadian Institute of Chartered Accountants (CICA) has issued a revised Handbook Section 3460 which specifies procedures for pension accounting, effective for fiscal years beginning on or after December 1, 1986. In the United States, the Financial Accounting Standards Board has also issued new procedures (SFAS No. 87), effective for fiscal years beginning after December 15, 1986.

The basic provisions of the revised Canadian Handbook Section 3460 and their relevance to the present analysis are set out by T. Ross Archibald and Darroch Robertson as follows:

---

[*] *In this section of the report we rely heavily on the study prepared by Professors T. Ross Archibald and Darroch Robertson, set out in Volume 1 of the Research Studies, 'Financial Accounting Standards and the Indexing of Pensions'.*

> 1. In accounting for the cost of pension benefits, the terms and conditions of the plan determine factors to be considered for measuring the pension costs and obligations' (3460.04). This would presumably include any legislation that would mandate some type of inflation protection for benefits.
>
> 2. There is a single method (specifically, the projected benefit method pro-rated on services), for accounting purposes. (The method can be described as an accrued benefit or unit credit method, with salary projection, allocated on a years-of-service basis.)
>
> 3. Most amortizations of pension plans are allocated and charged to expense over the estimated average service life of the existing employee group (commonly 16 or 17 years).
>
> 4. A 'best estimate' approach is required. Deviations from best estimates (experience gains and losses) and revisions to best estimates (changes in actuarial assumptions) are normally charged to expense over the estimated average remaining service life of the existing employee group.
>
> 5. The actuarial present value of pension benefits and the market-related value of pension fund assets are disclosed in footnote format.
>
> 6. An asset or liability amount will only appear on the balance sheet if the amount of the accounting expense varies from that which is funded.
>
> From an accounting perspective, it is vital to recognize that the existing accrual accounting model does not necessarily follow the pension plan funding patterns resulting from actuarial analysis and advice. Succinctly, accounting does not equal funding ... Actuaries are concerned with providing funding advice to their corporate clients while accountants follow the system of accrual accounting, which is specifically designed to transcend immediate cash flow patterns in order to properly measure both income and financial position.

It is generally expected that the new accounting rules will result in financial statement reports of pensions that often differ substantially from current actuarial calculations. On the one hand, actuaries and government supervisory authorities, to ensure adequate funding, have sought to provide a 'cushion' for unfavourable outcomes such as low real rates of return on pension assets. On the other hand, Canadian accountants, in conformity with Section 3460, will focus on 'best estimates' of the most likely future values of the various parameters. For final earnings and flat benefit plans in particular, therefore, the calculations of accountants that appear in financial statements will probably show much larger pension fund surpluses, or smaller unfunded liabilities, than do the more cautious estimates of actuaries and supervisory authorities. However, this use of different estimating procedures by actuaries and accountants does nothing whatsoever to the real ultimate obligations that will have to be met. The accounting rules merely provide a different way of estimating those ultimate costs and a different time pattern for expensing them than the rules followed by actuaries.

The same difference in estimates by actuaries and accountants may not appear in career average plans, because these will be affected in an additional way by the new accounting rules. For career average plans, the new CICA rules require the projected benefit method, rather than the accumulated benefit method often used by actuaries. This CICA projection of incomes and benefits will likely result in an increase in expensing for career average plans and a consequent diminution of surplus, or increase in unfunded liability.[1]

B Choice of Assumptions for Expensing Purposes

For expensing and financial statement disclosure purposes, accountants will base their calculations on their best estimates of the most likely future conditions. As we have seen, their assumptions can differ markedly from the less favourable predictions used by actuaries, under the supervision of the Pension Commission of Ontario, to ensure adequate funding for pension plans. The accountant's Handbook Subsection 3460.03 (g) states that 'best estimate assumptions, for accounting purposes, are a set of actuarial assumptions each of which reflects management's judgment of the most likely set of conditions affecting future events'. It seems that this phrase will be interpreted to mean 'most likely outcomes'. Hence, it appears that, for the next few years, and at most times in the future, the application of the new accounting principles to flat benefit and final earnings plans will indicate larger assets, smaller liabilities, and lower annual expense than will actuaries' certifications. Under Handbook Section 3460, financial statements' notes will indicate larger plan surpluses and smaller unfunded liabilities for these defined benefit plans.

The role of the auditor in the area of pensions is the same as in any other area of financial reporting: to ensure that the financial statements, which are management's representation, are presented fairly in accordance with generally accepted accounting principles. This means that it will be the responsibility of management to decide upon the choice of 'best estimates' for the various assumptions. The auditor must acquire sufficient audit evidence to assure himself or herself that the plan's assets: (1) exist, (2) are complete, (3) are owned by the pension plan, and (4) are valued at market or market-related value on a basis consistent with the previous year. More generally, the auditor's procedures and obligations can be seen from the following CICA audit guidelines:

> Actuarial assumptions relate to such matters as mortality, withdrawal, disability, retirement, changes in compensation, expenses, interest on accrued pension benefits, investment earnings, and asset appreciation or depreciation. Section 3460 requires the use of best estimate assumptions and defines best estimate assumptions as a set of actuarial assumptions each of which reflects management's judgement of the most likely set of conditions affecting future events.
>
> Auditors would therefore normally apply the following procedures to determine whether the assumptions appear reasonable and reflect the most likely set of conditions affecting future events:
>
> (a) review the process and criteria used in developing the assumptions considered by management to be the most likely set of conditions affecting future events;
>
> (b) review the internal consistency of the assumptions and their consistency with other publicly available long-term forecasts of economic conditions;
>
> (c) compare the assumptions with publicly available assumptions of other sponsors; and
>
> (d) discuss the reasonableness of the assumptions with both management and the actuary.
>
> In the years following implementation of the new pension disclosure requirements, comparisons with assumptions of prior years may also be useful.

The key conclusion from the above is that the auditor's objective is to determine if the assumptions are reasonable. Even if slightly different estimates could have been preferred by another sponsor, the role of auditors is limited to assuring themselves that the best estimate assumptions selected by management for the financial statements are internally consistent and reasonable in the circumstances.

C Choice of Expensing Method and Amortization Period

If the first difference between funding and expensing practices lies in the choice of assumptions about future events, a second difference will often be found in the choice of calculation method. As indicated above, for funding purposes actuaries have usually chosen either of two methods for their calculations: the unit credit (accrued benefit) or the entry age normal (level contribution) method. Section 3460 requires that for expensing purposes management use only the unit credit method. For the plans that have been using the entry age normal method for financial statement calculations, this change will usually mean a decrease in the current annual expense and will indicate a larger plan surplus or a smaller unfunded liability.

Another issue where divergence will occur concerns the appropriate amortization period to be used for spreading out any unfunded liability due to a change in plan design. Neither actuaries (with their eyes on meeting costs) nor accountants (with their eyes on the financial statements) believe that an unfunded liability needs to be entirely paid for in the current year. Rather, as indicated above, actuaries have usually amortized these costs over 15 years, and the PCO has in fact required that 15 years should be the maximum amortization period. Section 3460 requires that accountants use the estimated average service life remaining for the existing employee group, which can vary considerably from one plan to another. On average, we may expect a remaining service life slightly longer than 15 years. Consequently, the amortized charge or credit for any particular year will differ between the actuarial and accounting estimates, and this gap will vary considerably among plans.

The differences in the objectives of accountants and actuaries probably require that each plan have two different sets of analyses, with two different sets of estimates for plan liabilities, assets, and annual levels of expense or contribution. This means that all people interested in pension plans -- including employers, employees, and supervisory authorities -- will have to devote extra care and attention to the distinction between funding and expensing. While Section 3460 will improve financial statement reporting of pension funds and will impose greater uniformity in these calculations, it may also complicate comprehension because the new standards will emphasize the difference between pension funding and accounting.

D U.S. Reporting Regulations (FASB)

For those employers whose securities are publicly traded in the United States, financial statements will have to indicate pension fund liabilities and assets as calculated in accordance with recent guidelines of FASB (Financial Accounting Standards Board). While not identical to CICA Handbook Section 3460, the new FASB rules establish an accounting standard quite similar to the Canadian position. Both require the use of the benefit formula contained in the pension plan, and both require the use of the accrued benefit method, with salary projection, pro-rated on service, for the determination of the current service expense figure and for disclosure of the obligation in the notes.

A primary difference is the U.S. requirement to establish a balance sheet obligation for a minimum liability if the accumulated benefit is greater than the assets in the plan. It is in this area that the legislation to index, if on a retroactive basis, may have some more immediate impact on financial statement note and balance sheet disclosure of Canadian companies registered in the United States with the Securities and Exchange Commission. In describing the basis of calculating the accumulated benefit, the FASB rules state:

> Automatic benefit increases specified by the plan (for example, automatic cost-of-living increases) that are expected to occur shall be included in measurements of the projected, accumulated and vested benefit obligations, and the service cost component required by the Statement.

If automatic benefit increases specified by the plan or required by legislation must be included in the calculation of the accumulated liability, any retroactive legislation will probably affect the accumulated liability as well. The impact would be to increase the size of the accumulated liability, therefore increasing the probability of the requirement to disclose by way of a note to the financial statement the different liability that would result from the application of U.S. rules.

Another important difference between Canadian and American pension accounting standards relates to the level of disclosure required. As has been mentioned, Section 3460 only requires disclosure of the market-related values of the assets in the plan and the actuarial obligation; other data are optional. In contrast, the American accounting standard requires considerably more disclosure.

E Accounting for Ad Hoc Inflation Protection

A final issue deserving special mention is that some accountants, because of the 'best estimate' requirement, may now feel obliged to treat ad hoc benefit increases that are regularly granted in response to inflation as an explicit obligation of the plan. As Archibald and Robertson describe this:

> The question has been raised about the difference between a corporation that follows a pattern of indexing its retirees on an ad hoc vs. an explicitly contracted basis. In our view, albeit from an academic venue, the ad hoc pattern is a reflection of the economic reality of that company. Although an adamant client could raise the legal reality that until a concession had been granted to increase the pension there is no obligation, we would also hope that a diligent public accountant would argue that this does not reflect the reality of the corporation's actions to financial statement readers and that such a pattern of concessions should be built into the calculation of the true pension obligation and subsequent expense.

F A Good Time For Inflation Protection?

In the midst of so many important changes in the calculations for funding and accounting, the probable impact of mandatory inflation protection is very uncertain. In financial statements, however, the switch to 'best estimates' will create an appearance of increased surpluses or decreased unfunded liabilities, particularly with final earnings plans. As Archibald and Robertson suggest, 'now may be the ideal time, in a political sense, to introduce pension protection legislation because the resultant increase in costs or obligations may at least be partially absorbed by many Canadian companies because of existing, and in some cases massive, pension asset surpluses.' This statement may have to be tempered in light of the October 1987 changes in the value of equities. Moreover, it must be remembered that inflation protection is only one of the recent amendments in the Ontario Pension Benefits Act, 1987, many of which have added to the sponsor's costs.

IV TAX CONSIDERATIONS*

A Overview

Certain tax rules require particular funding practices. Others provide incentives for designing and funding pension plans in specific ways. These tax rules will likely affect pension plan responses to the mandating of inflation protection.

The federal Income Tax Act provides a substantial incentive to contribute to a pension plan by permitting the deductibility of pension contributions from income when calculating income tax and the deferral of tax on these contributions and on their investment earnings until they are withdrawn from the plan. These tax deductions and deferrals enable each pension fund to grow far more rapidly than it would do otherwise, and far more rapidly than most investments outside a pension plan. A dollar contributed to an employee's pension fund is therefore generally of greater value to the employee than a dollar paid in salaries or wages. Recognizing this, both employers and employees have put more funds into pension plans than they would have if tax deductions and deferrals were not allowed.

---

* *In this section we have drawn from the papers set out in Volume 1 of the Research Studies by Robert Couzin, 'Income Taxation and Retirement Saving' and by Nicholas J.M. Simmons, 'The Impact of Tax Regulations on the Design of Inflation Protection'.*

The political goals of interpersonal equity in tax deductions and deferrals, and of minimizing the revenue loss from foregone taxes have led the federal government to pay much attention to the question of appropriate contribution limits for defined benefit plans, money purchase plans, and RRSPs.

The defined benefit plan has offered employers the possibility of a windfall tax shelter as a result of these tax provisions. Surplus funds in a pension plan, with its tax deductions and deferrals, are a tax shelter. An employer able to withdraw these surplus funds in future years will have received the benefit of those tax deferrals and deductions. Thus some employers might be inclined to contribute more to pension funds than would be necessary to cover pension costs. To discourage this practice Revenue Canada has been particularly concerned about contribution limits and limits on surpluses.

B Contribution Limits for Defined Benefit Plans

Since each pension plan has its own special pattern of liabilities and assets, Revenue Canada has to examine each plan separately to determine whether excessive funding is providing a windfall tax shelter in the form of foregone or deferred taxes. In this supervisory role, Revenue Canada relies upon the actuarial certification of each plan and upon general guidelines. Some of these guidelines are in the tax code, but others are determined internally and may be altered in response to changing circumstances.

One particular statutory provision is of great significance for actuarial calculations of funding requirements: Revenue Canada has placed a ceiling on the annual pension that any individual can receive from a pension plan that is registered for tax purposes. This limit is the lesser of 2% of the best three consecutive years' average earnings or $1,715, multiplied by the number of years of pensionable service to a maximum of 35 years. In practice, for a full career of 35 years, the maximum pension available from the plan is 70% of the best three years' average earnings up to about $60,000 per year. Public debate has developed over whether this limit, which has been in place since 1976, should be raised. If the Income Tax Act were to raise this limit, and if plan sponsors were to raise their pension commitments accordingly, a sudden increase in the plan's liabilities could occur. In many plans, surpluses could be dramatically reduced immediately. The federal government has indicated that the current limits will remain until 1995, after which they will increase with Statistics Canada's new average wage index. The effect of the $60,000 limit on the question of surplus is discussed in Chapter 13.

C Limits on Surpluses in Defined Benefit Plans

As we shall see in Chapter 13, plan surpluses have developed for a number of reasons. They have become an issue of real concern to Revenue Canada, since the surpluses entail foregone tax revenues. As stated by Robert Couzin:

> From a fiscal standpoint, substantial plan surpluses do present a problem. They represent untaxed accumulations of wealth. Further, the current income on such untaxed accumulations also escapes tax due to the exemption accorded pension plans. Indeed, the potential tax savings could constitute a motivation for tax avoidance, particularly in the case of pension plans established by closely-held corporations. Where a significant shareholder is a beneficiary of the plan, such a surplus represents a potential avoidance of the aggregate limitations on retirement saving through pensions and registered retirement savings plans.
>
> Here then is a source of potential tension between income tax authorities on the one hand and pension plan regulators on the other. The regulators may wish to require that plan surplus not be distributed, that it be applied to increase benefits or dealt with in some specific manner. From an income tax perspective, there may be reason to place ceilings upon the plan surplus which can be accommodated in registered form.

Although not currently requiring the withdrawal of all surpluses, Revenue Canada has, by denying tax deductibility, placed limits on contribution levels to plans in surplus and limits on the permissible level of accumulated surplus. As described by Nicholas Simmons:

> Generally speaking, therefore, employer past service pension contributions (to fund deficiencies or to pay for increased benefits) are not allowed when there are any surplus funds. Employer current service contributions, that is, amounts received to fund the ongoing pension accrual for service, are not allowed if surplus exceeds the expected employer contributions for the next 24 months. Any amount over this 24 month cost margin must be used to reduce employer contributions or must be withdrawn.

D Tax and Other Incentives to Switch from Defined Benefit Plans

The federal government has tried to develop contribution limits for money purchase plans and RRSPs that would be consistent with the contribution limits for defined benefit plans. That is, the federal tax rules have been designed to treat employers and employees similarly, regardless of the type of pension plan. However, the provinces have not included RRSPs under their pension regulations. Consequently, regulatory treatment varies significantly between defined benefit and money purchase plans on the one hand, and RRSPs on the other.

During the past thirty years, several changes have been made to contribution limits for money purchase plans and RRSPs. When tax deductibility for contributions was introduced in 1957, these limits were set at the lower of 10% of earned income or $1,500. In 1965, separate limits were set for those who participated in a registered employment plan and for those who had no employment plan. For the former, the limits were set at the lower of 20% of earned income or $1,500. For the latter, i.e. those without pension plans, they were set at the lower of 20% of earned income or $2,500. By 1986, these limits were increased for those with an employment plan to the lower of 20% of earned income or $3,500, and for those without an employment plan to the lower of 20% of earned income or $7,500.

Current government plans are to raise these substantially over the coming decade. Robert Couzin has described these plans which were announced in October 1986:

> The rationale for the increase is simple. On an actuarial basis, one can determine what amount of money would have to be set aside every year by an individual providing for his own pension through an RRSP in order to fund the same maximum allowable pension as permitted under the registration rules applicable to

> employer pension plans. This exercise has generated the proposed maximum RRSP contribution of $15,500 or 18% of earned income (whichever is lower).

Registered Retirement Savings Plans are becoming increasingly attractive. Apart from the increase in contribution limits, an important tax consideration is the ability to deduct contributions to a spousal RRSP in calculating tax payable. A married couple can therefore allocate their RRSP contributions between them so as to receive equal retirement incomes, thereby minimizing the income tax they will ultimately pay on their retirement incomes.

In addition, the owner of an RRSP can borrow from it for certain purposes, thereby obtaining current use without paying income tax. Most notably, recent tax changes have permitted such borrowing for the purpose of financing a home mortgage. Furthermore, tax provisions permit the deposit of certain employment severance payments into an RRSP without being taxed at the time of payment. Finally, RRSPs have the advantage of great flexibility in the withdrawals. The plan may be deregistered in whole or in part and a lump sum withdrawn. The RRSP may be converted into a RRIF under which the annuity payments may vary each year.

An additional recent tax change has made RRSPs particularly attractive for employees who resign or are dismissed prior to retirement. A terminating employee who transfers his or her employment pension funds to an RRSP will often receive an increase in future RRSP contribution limits. Nicholas Simmons, in his Volume 1 paper, 'The Impact of Tax Regulations on the Design of Inflation Protection', describes how these pension adjustment reversal calculations provide new RRSP contribution room to the terminating employee.

For our purposes, a particularly important issue concerns the ability of an employer to deduct for tax purposes those pension contributions necessary to pay for inflation protection. Our understanding is that the new tax pension registration rules will allow full funding of the liabilities associated with the indexing of retirement benefits. This deduction will be a substantial assistance to employers in meeting the additional costs that will be imposed by Ontario's mandating of inflation protection. Effectively, a large portion of these additional costs will be paid by society as a whole out of foregone tax revenues. The after-tax cost to most employers will be only a portion of these additional costs, with the portion in each case depending upon the marginal tax rate of the employer. Furthermore, employees' contribution limits to their RRSPs will not be reduced. This may prove to be an important factor in encouraging plan sponsors to adopt generous inflation protection formulas. Many employees would rather have an inflation-protected lower benefit that would still allow RRSP contribution room than a higher benefit which would use up all the RRSP contribution room.

An additional consideration of serious concern for mandatory inflation protection is the possibility, if Ontario's inflation protection rules are drafted to apply only to defined benefit plans, of avoiding the legislation by shifting from a defined benefit plan to either a money purchase plan or a group RRSP. Some employers and employees may then decide to shift away from defined benefit plans. A significant element in this decision will be Revenue Canada's tax treatment of contributions to money purchase plans or RRSPs. At present, the federal government is in the process of changing these rules. It is not yet clear what the ultimate tax provisions will be, but they will certainly permit much larger tax deductions than in the past. In other words, at the same time as inflation protection legislation will encourage employers and employees to shift out of defined benefit plans, new Revenue Canada rules will encourage such a move by making money purchase plans and RRSPs much more attractive alternatives than they have been in the past. This factor is important in trying to predict employer-employee reaction to Ontario's inflation protection legislation and in deciding whether to extend mandatory inflation protection to money purchase plans and/or RRSPs.

The above considerations alone would likely convince some employers to shift away from defined benefit plans. The plethora of recent reforms -- including early vesting, portability and the 50% contribution rule -- all add to the administrative cost and complexity of defined benefit plans and so will add to this tendency. The imposition of mandatory inflation protection will superimpose yet another set of regulations to defined benefit plans, further encouraging the shift away from them. Finally, the substantial increases by Revenue Canada in money purchase and RRSP contribution limits, seen in this context, have made the shift away from defined benefit plans a more feasible option.

E Supplementary Retirement Plans

Finally, it should be noted that an employer can promise defined benefits in excess of Revenue Canada's statutory limits and can make contributions to retirement funds beyond the statutory contribution limits. A substantial number of these special compensation arrangements exist with high-income employees. Revenue Canada has responded to these arrangements with a special set of rules designed to prevent tax deferral beyond that available through registered plans.

A further complication has arisen when the employer is exempt from tax (hospitals, schools, and various institutions) or simply not currently taxable (due to available losses or credits). In these cases, any 'penalty' to the employer of losing an immediate deduction for the deferred remuneration might be more than offset by the benefit to the employee of deferring taxation. Employee benefit plans came to be quite popular as a means of providing unlimited and unregulated salary deferral for employees of non-taxable employers. Rules implemented in February 1986 have been designed to impose a tax on such employers in lieu of the denial of a deduction, since a deduction has no financial impact for tax-exempt employers.

Generally, the custodian of a supplementary retirement compensation arrangement will be required to pay a special refundable tax of 50% on both contributions received from the employer and any earnings under the arrangement. This tax approximates the tax 'penalty' to a taxable employer of a denied deduction. Contributions to a retirement compensation arrangement are fully deductible. The taxable employer thus obtains a deduction for contributions to the plan and is subject to a 50% refundable tax. Such an employer is treated essentially as if the amount had not been deductible. A non-taxable employer is placed in much the same position as a taxable employer by the special 50% tax. The tax is refundable on the distribution of benefits which are included in computing the income of the employee as retirement income. Effectively, the system is designed so that the refundable tax is indeed refunded when the employee becomes taxable, on a cash basis, on the retirement or pension income.

For the purposes of this report, an important question is whether mandatory inflation protection should be extended to these supplementary retirement plans. Many people may feel that these supplementary arrangements are designed in most cases for high-income employees, so that inflation protection for these benefits need not be a matter of public concern. However, it is true that some deferred profit sharing plans have been established for the average employee, and consideration should be given to the application of inflation protection to such plans.

V CONCLUSION

Revenue Canada's guidelines and judgments have sometimes differed from those of plan actuaries and the PCO. A plan sponsor may be told by Revenue Canada to reduce pension contributions and withdraw surplus funds, in opposition to actuarial advice and the PCO guidelines. The increasing discrepancies between appropriate actuarial calculations and the new accounting rules will likely intensify this problem. Particular concerns in this regard will be the current Ontario requirement that surplus funds not be withdrawn, and the legal controversies over whether an employer can take a 'contribution holiday' if the plan has a surplus. These obstacles to withdrawals of funds and contribution reductions may clash increasingly with Revenue Canada's rules and judgments. In the midst of these controversies, the new CICA Section 3460 will likely encourage plan sponsors to be less conservative in their expensing practices and possibly less conservative also in their funding practices. The issue of appropriate funding and expensing of mandatory inflation protection will be superimposed on these differences in objectives and judgments. In this context, it will become increasingly important -- yet increasingly difficult -- to have regulatory standards that take into account both the need to ensure adequate funding for all plans and the need to avoid overfunding and unnecessary surpluses.

Chapter 7: Funding, Accounting, and Tax Considerations

NOTES

1. Deloitte, Haskins and Sells, Pension Costs: A guide to the new accounting rules (1987), at pp. 8-9.

CHAPTER 8

Cost Analyses*

I INTRODUCTION

In choosing among alternative inflation protection formulas, cost issues are of central concern. Many employers, in their written submissions and at the Task Force's public hearings, stressed that the costs of inflation protection could hurt their competitive position and reduce their employment and profitability. At the outset of its work, the Task Force recognized the seriousness of these cost issues and devoted a large portion of its research program to this subject.

As indicated in Chapter 2, the cost impact of inflation protection on money purchase plans and RRSPs does not involve any conceptual problems. That is, inflation protection could be provided simply by 'tilting' annual pension payments, reducing earlier payments and raising later payments. In each case, an escalated annuity would provide inflation protection; and the cost of that protection would be the initial diminution in the annuity payments below the level of payments that would otherwise be provided. In these cases, costs would normally be borne by the employee. Alternatively, the employer could pay the additional cost of purchasing an indexed annuity rather than a level payment annuity. For money purchase plans and RRSPs the extent of cost would be determined in the market, through the competition among life insurance companies to sell annuities. Therefore the analyses in this chapter are restricted to defined benefit plans, where serious conceptual problems complicate the estimation of cost impacts.

The Task Force established an actuarial subcommittee to develop a research program for the analysis of costs and to supervise the research work. This subcommittee included Shiraz Bharmal, William Chinery, David Short, and John Ilkiw as Chairman. It was decided that the computations would be conducted by William M. Mercer Limited under the leadership of John Ilkiw and William Chinery. The complete analysis can be found in Volume 3 of the Research Studies.

---

* *The Task Force is grateful to the private and public sector plan sponsors who volunteered their plans for cost analysis.*

On the advice of the actuarial subcommittee, the Task Force developed a three-stage cost analysis:

> Stage I: The long-run costs of inflation protection are estimated using traditional methods for a number of representative model plans.
>
> Stage II: The first-year operating costs of inflation protection for 22 real plans are estimated from both funding and expensing perspectives.
>
> Stage III: The operating cost profile of inflation protection in changing economic conditions is estimated for three of the Stage II plans over 20 years.

Taken together, these three analytical stages provide a study of the possible costs of inflation protection to a depth not undertaken before in Canada.

The cost estimates in Stages I and II were calculated using an actuarial model originally developed by Statistics Canada and the federal Department of Insurance, (now the Office of Financial Institutions) and subsequently refined and expanded by William M. Mercer Limited. The Stage III multi-year cost estimates were calculated using Prediktor-4, a computational program provided by Royal Trust.

In calculating the cost of inflation protection for defined benefit plans, one must make predictions about future circumstances, such as inflation rates, mortality rates, withdrawal rates, retirement ages, and rates of return on pension funds. Since predictions involve uncertainty, one can only develop estimates of costs. A central aspect of the methodology is to postulate a variety of alternative possible future circumstances, or 'scenarios'. Hence, this chapter and the more detailed report in Volume 3 of the Research Studies include cost estimates for a wide range of scenarios. Each scenario, however, is based upon a certain combination of specific assumptions. It is likely that actual future circumstances will be different from any of these scenarios and that none of the cost estimates in this chapter will turn out to be a precise representation of the future. Finally, this chapter does not comment on who will bear the costs of inflation protection; that is, it does not investigate or shed light upon the incidence of those costs among employers, employees, and those to whom the costs may ultimately be shifted.

In Stage I of its analysis, the Task Force pursued a traditional approach. Previous studies have examined the cost impact of inflation protection, but they focus only on long-run costs. Generally, these studies have constructed several model or average plans to represent each of a flat benefit plan, a career average plan, and a final or best average plan. These model plans were then costed using predictions about future circumstances, such as inflation rates, mortality rates, withdrawal rates, and retirement ages. The Task Force made some improvements on this traditional approach. The types and detailed characteristics of all Ontario plans were examined in order to formulate model plans that would more accurately represent the wide range of actual experiences in Ontario. It was concluded that 13 model plans should be costed, rather than the smaller number usually examined, to develop a more complete picture of the variation in costs. Moreover, these plans were subjected to a wider range of possible future circumstances than had generally been used in previous studies, allowing the estimation of long-run costs with thousands of possible combinations of inflation rates and inflation protection formulas.

The Task Force then developed two additional methodologies in order to provide insights beyond those of the traditional long-run cost calculations. These new methodologies, being original, required substantially more time and effort than the traditional approach.

Stage II was based upon the important fact that operating costs faced by plan sponsors because of inflation protection will differ from the long-run costs estimated in Stage I and will also differ significantly from plan to plan. To understand the cost impact of inflation protection on a corporation's competitiveness, employment, and profitability, it is necessary to know the size of short-run operating cost increases as well as the long-run cost increases. As we have seen in Chapter 7, the time profile of operating cost increases differs considerably between the traditional funding computations of actuaries and the Pension Commission of Ontario on the one hand, and the expensing calculations in financial statements based on the new accounting requirements on the other. For Stage II the Task Force preferred to base the calculations on actual plans rather than on average model plans. These actual plans were chosen to represent all -- or nearly all -- the types of defined benefit plans that currently exist in Ontario. As real plans, each contains elements specific to the particular organization, such as the age profile of employees, the number of actives, deferreds, and retirees, the provisions for the accrual of benefits, the average retirement age, and established practices concerning ad hoc increases in retirees' pensions. Since these characteristics vary significantly among plans, the Task Force concluded that a sample of only 13 plans, as in Stage I, would not have adequately represented the range of plans functioning in the province. Estimates were calculated for 22 actual plans.

First-year funding and expensing costs are calculated as a percentage of payroll and presented separately for Stage II plans. Under prospective inflation protection, first-year and future-year costs will be the same, other circumstances remaining unchanged. Under retroactive inflation protection, first-year costs are higher than future-year costs because of the amortization of increased past service liabilities. However, once the increased past service liabilities are fully amortized, only the incremental cost of prospective inflation protection remains.

Stage III was based upon the important fact that, from year to year, significant variations can occur in the rate of inflation and in the rate of return to pension fund assets. These variations can introduce cost problems that are not demonstrated in the Stage I calculations of long-run cost or in the Stage II calculations of funding and expensing costs. In particular, these variations add to the risk confronting plan sponsors, and this added risk may differ among plans and among the alternative inflation protection formulas.

In Stage III, three of the real-life Stage II plans were chosen to represent the flat benefit, career average, and final average plan types. For each, 20 years of annual costs of inflation protection were estimated assuming current plan membership, partial inflation protection of (75% of CPI) -1%, and the actual CPI increases and rates of return on stocks and bonds that occurred during 1967-86. It was assumed in each case that the pension fund was invested 50 per cent in stocks and 50 per cent in bonds. These calculations reveal the degree of risk entailed during periods of unexpectedly high inflation or of low real rates of return on pension funds as well as the improvements in pension plan earnings during periods of low inflation or of high real rates of return on pension funds. By re-running the experiences of 1967-86, Stage III focuses on realistic changes in economic circumstances.

The remainder of this chapter will discuss each stage in more detail and present conclusions drawn from the findings.

II STAGE I: LONG-RUN COSTS

Before considering the Task Force methodology and findings, we review briefly several of the earlier studies that used this approach.

A Previous Studies

The Green Paper and the BCPP Estimates:

In 1982, as noted in Chapter 4, the federal government issued a Green Paper entitled 'Better Pensions for Canadians' in which it proposed a number of legislative reforms. The Green Paper presented cost calculations for these reforms, including the costs of inflation protection. In response to the Green Paper, as we also saw in Chapter 4, a group of business associations developed a combined response through their Business Committee on Pension Policy (BCPP). The Committee engaged William M. Mercer Limited to prepare an independent analysis of the Green Paper proposals, and it released these cost estimates as a comparison with the cost estimates presented in the Green Paper. Both sets of cost estimates are based on the long-run economic values of seven hypothetical or model plans. This methodology is similar to that of Stage I in our cost analysis, except that we felt it necessary to develop 13 model plans rather than seven in order to represent adequately the diversity among plans. Their findings are consistent with those of our Stage I analyses. However, their methodology does not provide the range of insights that are developed through our Stage II and Stage III analyses. Hence some of this Report's conclusions are beyond the scope of their work.

The BCPP computations include the analysis of certain inflation protection formulas not considered by the Green Paper, in particular the formula of 50% of CPI on only that portion of pensions related to incomes up to the Average Industrial Wage and the formula 75% of CPI starting only at age 68. They also include sensitivity tests where cost impacts are measured under a range of economic assumptions and termination rate assumptions. Because of this wider range of assumptions, the BCPP analyses are more instructive than those of the Green Paper. As emphasized in the introduction to this chapter, since one cannot predict future economic circumstances, one must base cost estimates on a set of assumptions about those circumstances. For their base case estimates, upon which most of their reported results are calculated, the BCPP rejected the Green Paper assumptions. The following choice of different assumptions explains much of the reported differences in cost estimates.

	BCPP %	Green Paper %
Annual increase in CPI	6.0	3.0
Annual increase in Average Industrial Wage	7.5	5.0
Annual rate of return on the pension fund	8.5	6.5

At the request of the federal Department of Finance in 1985, William M. Mercer Limited used the BCPP model to calculate the costs of seven alternative inflation protection formulas, with three alternative rates of inflation.

The Ontario 1984 White Paper Estimates:

In 1984, the Ontario government released a White Paper containing its proposals for legislative reform of pensions. For employment pension plans, the reforms consisted of: (1) inflation protection equal to 60% of CPI, (2) five-year vesting, (3) minimum employer contributions, (4) minimum interest on employee contributions, and (5) mandatory pre- and post-retirement survivor benefits. The cost estimates in the White Paper are based on the adoption of this entire set of reforms, and the cost of inflation protection is not reported separately. The cost computations were performed by William M. Mercer Limited and were based upon the same methodology as Mercer used in the BCPP analyses described in the preceding section: the plan designs, actuarial and economic assumptions, and costing technique are the same. Consequently, the comments made above concerning consistency of conclusions and limitations of the analyses as compared with the Task Force computations are relevant for the Ontario White Paper as well. As their report indicates, the cost of pension plans as a percentage of payroll varies substantially among types of plans, and the cost of the reform package also varies substantially. It is important to note that in the White Paper the inflation protection is prospective only, applying solely to benefits that would accrue after the legislation was passed, and that the costs are those incurred if the CPI increases by 6 per cent annually.

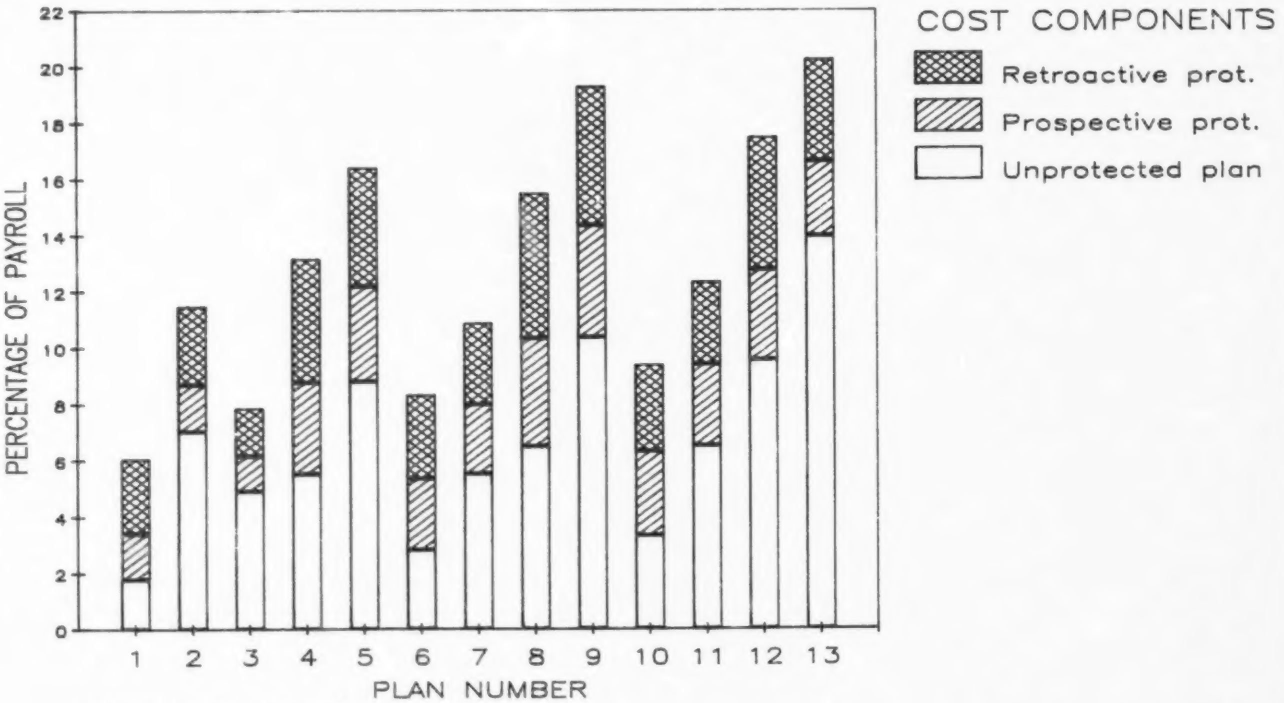
B The Task Force Stage I

In Stage I, the present Task Force estimated some 60,000 long-run cost or economic values for 13 model plans, making it possible to calculate the impact of almost every conceivable inflation protection formula. The characteristics of the model plans are described in Table 8.1. In each case, the basic cost of the existing plan incorporates the estimated long-run cost of existing inflation protection practices, even where these are discretionary in nature and not prefunded.

Figures 8.1 and 8.2 illustrate the combined impact of implementing prospective and retroactive inflation protection on the long-run economic cost of the 13 Stage I pension plans assuming 5 per cent long-run inflation. The bottom section of each column indicates the estimated economic cost of the represented pension plan. The middle section indicates the incremental cost of prospective inflation protection, while the top section is the economic cost of retroactivity (i.e. of amortizing over 15 years the unfunded liability created by retroactivity), applying the particular inflation protection formula to past service.

FIGURE 8.1

Full Inflation Protection
Long-run Cost in 13 Model Plans
(100% of CPI, inflation rate 5 per cent)



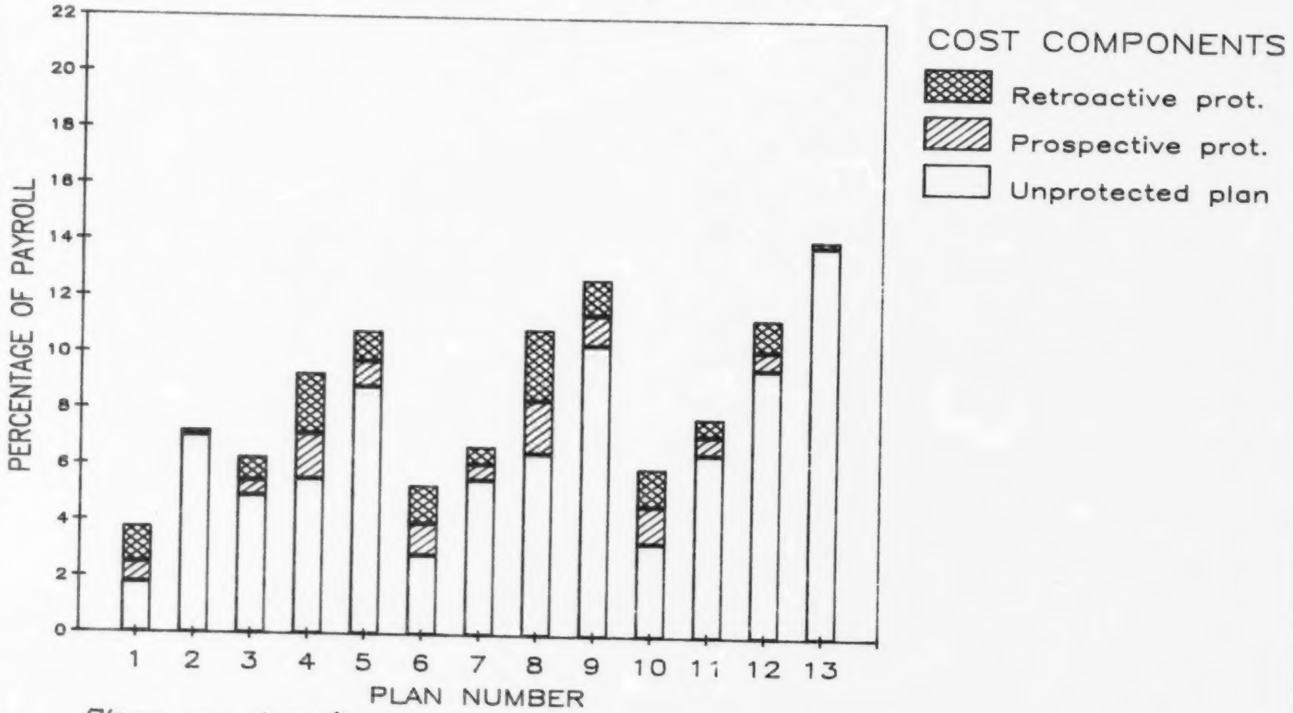
Plans are described in Table 8.1.

SOURCE: Research Studies, Volume 3

FIGURE 8.2

Partial Inflation Protection Long-run Cost in 13 Model Plans

([75% of CPI] −1%, inflation rate 5 per cent)



Plans are described in Table 8.1.

SOURCE: Research Studies, Volume 3

Overall, Stage I results in the following findings. First, as seen in Figure 8.1, full inflation protection (100% of CPI) produces in many plans a very large increase in cost. For example, in plan number 8, which is a final average plan, the cost of the promised benefits, including retroactivity, rises to 15.5 per cent of payroll from an initial value of 6.5 per cent, an increase of 9 percentage points of payroll.

Second, Figure 8.2 shows one of several 'middle-range' partial inflation protection formulas that, as demonstrated in Volume 3 of the Research Studies, produce roughly the same increase in long-run cost in any given plan at 5 or 6 per cent inflation. At this inflation rate the long-run cost of partial inflation protection with these formulas is markedly lower than the long-run cost of full inflation protection, as a comparison of Figures 8.1 and 8.2 suggests. Of course, as can be seen from Volume 3 of the Research Studies, at other inflation rates these 'middle-range' formulas differ in their long-run costs.

Third, for most plans, over the first few years the amortized cost of retroactivity is as large as or larger than the cost of prospective inflation protection only. These percentage-of-payroll estimates of the cost of retroactivity are, of course, affected by the selection of 15 years as the amortization period. A longer or shorter amortization period would decrease or increase the cost of retroactivity when expressed as a level percentage of payroll.

III STAGE II: FIRST-YEAR OPERATING COST OF INFLATION PROTECTION

A Methodology

Previous cost estimates have been based, not on actual pension plans, but on hypothetical 'average' plans, as in our Stage I. Moreover, estimates of the underlying long-run cost of inflation protection do not capture the short-run operating cost increases faced by actual pension plans. Operating cost increases will vary widely among plans because of differences in benefit design, funded status, funding methods, economic assumptions, ancillary benefits, demographics, and inflation protection practices.

Stage II estimates the first-year operating cost increases that alternative inflation protection formulas would impose on actual Ontario pension plans. These estimates portray the first-year operating cost increases that pension plans would experience in the year inflation protection is implemented. Two operating cost measures are estimated: the funding cost to meet PBA regulations and CIA requirements, and the expensing cost to meet CICA and FASB accounting requirements.

As explained in Chapter 7, pension plans are subject to both funding and accounting requirements, and it is unlikely that pension funding costs will be the same as pension accounting (expensing) costs. The former directly affect a plan sponsor's cash flow and taxable income, while the latter affect the plan sponsor's financial statements. Both cash flow and financial statements are fundamental to the operation of any corporation.

The actuarial subcommittee collected summary data on 51 Ontario pension plans from six actuarial consulting firms. From this sample, a set of plans was selected by the subcommittee in conjunction with the Task Force and the Task Force's Advisory Committee which would exhibit high, medium, and low cost increases with the introduction of inflation protection.

To estimate the first-year operating cost of inflation protection, it was necessary for the Task Force to select a single set of 'conservative' economic assumptions for funding, and a single set of 'best estimate' economic assumptions for expensing. The economic assumptions currently used in practice by actuaries in the various plans in Stage II have evolved differently, embody a host of influences that differ from plan to plan, and serve a variety of objectives. Operating costs have been estimated using to the fullest extent possible the detailed data submitted for each of the plans.

B First-year Funding Cost Estimates for (75% of CPI) -1%

The first-year funding cost estimates for the (75% of CPI) -1% inflation protection formula applied prospectively and retroactively to Stage II pension plans are shown in Table 8.2. The main differences in characteristics between the plans are shown in Table 8.3.

Prospective Inflation Protection Only:

The estimated maximum increase in current service cost due to prospective inflation protection at (75% of CPI) -1% ranges from a high of 3.9 per cent of payroll for plan 17 to a low of zero for plan 19. The average increase across the plans is 1.4 per cent of payroll.

The wide variation in the estimated maximum cost increases is attributable to the different benefit and demographic characteristics of each plan shown in Table 8.3. For example, the 3.86 per cent maximum increase for plan 17 in Table 8.2 is attributable to the combined influence of a relatively high benefit accrual rate (1.45%), a low retirement age (60), and a high proportion of females (who have a longer life expectancy than males) in the plan population (64 per cent). In contrast, plan 19 avoids any cost increase because it already prefunds inflation protection at an estimated 55 per cent of the assumed long-run inflation rate of 4.5 per cent, while the (75% of CPI) -1% formula provides about 52 per cent inflation protection.

Some of these plans thus already have implicit inflation protection policies. Adjusting the estimated maximum funding cost increases by the value of these policies produces 'potentially' lower first-year funding cost increases for 13 of the 22 plans. For example, plan 17 has an implicit policy of 60% inflation protection, which has an estimated value of 4.5 per cent of payroll. This more than offsets the 3.86 per cent maximum increase due to the (75% of CPI) -1% formula and potentially eliminates the cost increase. Plan 13 has an implicit inflation protection policy of 40%, which results in a 'potential' cost increase of only 0.59 per cent of payroll compared to its maximum cost increase of 2.07 per cent of payroll. For those plans which do not provide inflation protection, the maximum and potential cost increases are the same. The average potential cost increase across these Stage II plans is 0.44 per cent of payroll, which is only about 30 per cent of the average maximum cost increase of 1.44 per cent of payroll.

The lower potential funding costs due to the recognition of implicit inflation protection policies do not necessarily translate into lower actual funding costs. Whether or not this reduction appears depends on how the implicit inflation protection for the current service of active plan members is being financed. Only if it is being prefunded by the use of conservative economic assumptions will a plan's actual increase under mandatory inflation protection equal the potential cost. However, if the implicit inflation protection is being funded outside the plan by the establishment of unfunded liabilities when present active members are retired, the plan's actual funding cost increase will equal the estimated maximum increase.

Retroactive Inflation Protection:

The retroactive cost estimates in Table 8.2 include the amortization of increased liabilities due to retroactive inflation protection plus the cost of prospective inflation protection. First-year maximum total funding costs for retroactive inflation protection range from a high of 9.84 per cent of payroll for plan 18 to a low of zero for plan 19. The average increase in maximum total funding cost across the plans is 3.80 per cent of payroll. The selection of a longer/shorter amortization period would decrease/increase the retroactive component of the total funding cost increase.

Again, the wide variation in cost estimates is attributable to the plans' differing benefit and demographic characteristics. For example, the maximum total funding increase of 9.84 per cent for plan 18 arises from the combined influence of a relatively high benefit accrual rate (1.58%), relatively high average years of service (27.4), and a relatively high proportion of liabilities for retired and deferred plan members (43 per cent). This 9.84 per cent of payroll increase is composed of a 2.08 per cent current service cost and a 7.76 per cent cost to amortize increased past service liabilities imposed by retroactivity.

As with prospective inflation protection, adjusting the estimated maximum total increase in first-year funding costs by the value of implicit inflation policies followed by the various plans produces potentially lower cost increases. For example, plan 12 has an implicit policy of 50% inflation protection. When the value of this policy is applied to both future and past service, it produces a potentially lower first-year total funding cost increase of 0.50 per cent of payroll. Across the Stage II plans the potential first-year total cost increase for retroactive protection ranges from a high of 9.84 per cent of payroll to a low of zero, while the average potential cost increase is 1.29 per cent of payroll.

Again, only if a plan's implicit inflation protection is being prefunded by the use of conservative economic assumptions will the actual increase equal the lower potential cost increase. Otherwise the plan will face the estimated maximum.

C First-year Expensing Cost Estimates for (75% of CPI) -1%

Table 8.2 also presents first-year prospective and retroactive expensing cost estimates for the 16 Stage II pension plans to which the new CICA/FASB requirements apply. These expensing cost estimates can be analysed and interpreted in the same manner as the funding cost estimates.

Prospective Inflation Protection:

The maximum increase in pension expense for prospective inflation protection ranges from a high of 3.92 per cent of payroll for plan 17 to a low of 0.19 per cent for plan 4, while the average increase in pension expense for the plans affected by the new accounting rules is 1.56 per cent of payroll. This is about 10 per cent higher than the average maximum funding cost increase for the same group of plans. As with the funding cost estimates, the wide variation in pension expensing estimates is attributable to differences in plan characteristics.

Although the expensing costs of implicit inflation protection policies followed by the Stage II plans have been calculated and their potential impact summarized in Table 8.2, these amounts will probably not offset the estimated maximum expensing costs. Few plan sponsors now incorporate in their pension expensing cost estimates the impact of implicit inflation protection policies because they have not made a formal commitment to these policies. However, mandatory inflation protection means they will be legally bound to a minimum level of inflation protection, and this minimum will have to be embodied in expensing cost estimates. Most plan sponsors affected by the new accounting rules will face maximum pension expensing cost increases similar to those estimated for the Stage II plans.

Retroactive Inflation Protection:

The retroactive implementation of the (75% of CPI) -1% formula produces a maximum expensing cost increase ranging from a high of 16.33 per cent of payroll for plan 17 to a low of 0.74 per cent of payroll for plan 4. The average increase across the plans is 6.73 per cent of payroll. Again, the wide variation in expensing cost increases results from differences between the plans.

The 6.73 per cent average increase in expensing cost is about 75 per cent higher than the average funding cost increase for the same set of plans. This marked difference is attributable principally to the different amortization methods used for funding and expensing. Funding estimates amortize increased past service liabilities due to retroactivity as a level percentage of payroll. In contrast, expensing estimates amortize increased liabilities on a straight-line method, which produces higher first-year amortization costs than the former.

Table 8.2 presents the potentially lower expensing cost increases that various Stage II plans will face in the unlikely event that they currently incorporate the value of their implicit inflation protection policies in pension expense estimates.

Although first-year cost estimates for inflation protection are an accurate guide to future annual funding costs, they do not reflect the future annual expensing costs for retroactive inflation protection. As noted above, the amortization method commonly used for expensing purposes produces amortization expenses that are particularly high in the first year but which decline in subsequent years.

For example, Table 8.2 shows an average maximum first-year expensing cost increase for retroactive inflation protection of 6.7 per cent of payroll for the plans considered (compared with an average funding cost increase of 3.8 per cent of payroll for the same plans). However this expensing cost increase would decline to 5.8 per cent of payroll in the third year, 4.9 per cent of payroll in the fifth year, 3.5 per cent of payroll in the 10th year, and 2.5 per cent of payroll in the 15th year, with an average expensing cost increase of

4.2 per cent of payroll over the 15-year amortization period. In comparison, the funding cost increase would remain at the first-year level of 3.8 per cent of payroll throughout the 15-year period. In year 16, only the additional cost of prospective inflation protection would remain, a 1.35 per cent funding cost and a 1.56 per cent expensing cost, other things remaining unchanged.

IV STAGE III: MULTI-YEAR OPERATING COST OF INFLATION PROTECTION

A Methodology

Stages I and II estimates were calculated as if assumed long-run investment returns, earnings growth rates, and inflation rates would be actually realized every year in the future. This, of course, does not happen. Actual short-run economic experience invariably differs from the long-run economic assumptions used to calculate annual operating costs, even if over the long run these assumptions prove correct. This variability in short-run experience translates into uncertainty about short-run costs. Stage III examined the multi-year impact of CPI-linked inflation protection formulas on total annual pension plan operating costs over a 20-year period during which inflation rates and investment returns fluctuate.

The inevitable departure from assumed long-run experience will either increase or decrease short-run pension costs. While unexpected decreases in operating costs usually pose welcome problems for plan sponsors, unexpected increases in operating costs can cause significant harm. The key concern is that unexpectedly high inflation and low investment returns in combination with mandatory inflation protection could impose unacceptably high levels of short-run operating costs.

Multi-year funding and expensing estimates were calculated for three Stage II plans: a flat benefit plan, a contributory career average plan, and a non-contributory final average plan. Under a given 20-year economic scenario, annual funding and expensing costs for each plan were first estimated assuming no inflation protection. This established a benchmark for comparison. Various CPI-linked inflation protection formulas were then introduced into each plan, and corresponding operating costs were then compared to the operating cost in the absence of inflation protection.

Unlike all previous discussions in this Report, Stage III assumes that inflation protection is 'mature', that is, has been in place for decades. Since the introduction of and transition to inflation protection in these plans is assumed to have been completed, the distinction between prospective and retroactive inflation protection, which concerns only the introductory and transitional period, no longer exists in Stage III. The scenario for each plan adopts the current membership and benefit structure of an actual existing plan and subjects it to the actual historic CPI increase and fund real return rate for every year from 1967 to 1986. Standard actuarial assumptions are made about the termination, retirement, and replacement of plan members over these 20 years. The result, shown in Volume 3 of the Research Studies, is a look at how three actual current plans would have behaved in the economic conditions that prevailed in the last 20 years if the (75% of CPI) -1% formula had been in place for a long time.

B Results

Key results of Stage III are summarized in Table 8.4, which shows the annual cost of inflation protection as a percentage of payroll. The main finding is the increased annual variability in the cost of inflation protection, which arises from variations in the inflation rate and the fund real return rate. The flat benefit plan was deliberately chosen for analysis by the Task Force as representing a possible extreme in variability. Its annual funding cost moves erratically from year to year between a low of 1.20 per cent of payroll and a high of 7.70 per cent. The annual expensing cost varies between 2.00 and 5.60 per cent of payroll. As the study in Volume 3 shows, such variability would exist to a lesser degree in the absence of inflation protection. But the variability has increased because of inflation protection by 42 per cent for funding and 44 per cent for expensing.

The final average plan shows a similar, and the career average plan a somewhat smaller, increase in variability attributable to the partial inflation protection.

In a pension plan with partial inflation protection, the annual costs of funding (affecting the employer's cash flow) and of expensing (affecting the employer's reported profits) are significantly more sensitive to the rate of inflation and the rate of return on fund investments than in the same plan without inflation protection. Along with this increased variability goes a corresponding amount of increased uncertainty and financial risk for the plan sponsor.

A second important finding is that the extent of variability itself depends on the plan and thus is even more uncertain than if it were common in all plans.

Thirdly, funding and expensing costs are affected differently by variability, and this difference also depends on the particular plan.

In short, inflation protection makes annual pension costs less predictable to an extent that varies widely depending on the plan. Two methods of reducing this variability are the introduction of a cap with a rollover and the issuance of indexed bonds.

C Summary

The multi-year analysis in Stage III of how inflation protection affects pension plan operating costs reveals three important principles, as seen in Volume 3 of the Research Studies.

First, mandatory CPI-linked inflation protection not only increases first-year operating costs of pension plans as demonstrated in Stage II, it also increases the uncertainty about the level of future short-run operating costs that pension plans will face. In general, the level of uncertainty about short-run operating costs increases as the level of inflation protection increases.

Second, the impact of alternative inflation protection formulas on pension plan operating costs under changing inflation rates must be assessed by examining the actual levels of short-run operating costs that could be imposed on pension plans. This will reveal whether an inflation protection formula that appears affordable over the long run is also affordable in the short run.

Third, the relationship developed in Stage I between the long-run costs of inflation protection and increasing inflation rates cannot be used to assess the impact of alternative formulas on short-run operating costs. Stage I measures the long-run economic value of alternative formulas assuming different levels of expected long-run inflation. In contrast, Stage III measures the impact of inflation protection formulas on operating costs when short-run inflation rates are different from a particular level of expected long-run inflation. Stage III multi-year estimates thus provide more and better insight into the affordability of different inflation protection formulas.

V SOME METHODS OF MODERATING THE COSTS OF RETROACTIVE INFLATION PROTECTION

All the cost estimates presented in the three stages are based on certain assumptions: that the inflation protection formula will come into effect immediately; that pension adjustments will commence immediately following retirement; and that the unfunded liability associated with retroactive inflation protection will be amortized by level-percentage-of-payroll payments over a 15-year period. We now examine the implications of deviating from these assumptions.

A phasing in of the selected inflation protection formula over a period of years would clearly provide some savings. For example, if the (75% of CPI) -1% formula were selected as the target, a phase-in scheme might provide adjustments equal to (75% of CPI) -$2^1/_2$% initially, with the target formula being reached over 15 years. The amount of savings would depend on the level of inflation during the phase-in period, the terms of the pension plan, and the demographic characteristics of the plan members.

For example, a (75% of CPI) -$2^1/_2$% formula would provide only 25 per cent of the adjustments generated by the (75% of CPI) -1% formula if inflation were at an annual level of 4 per cent, but would provide 70 per cent of the target formula adjustments if inflation were 8 per cent. For a plan covering a relatively young group of employees with few existing pensioners, this type of phase-in would produce relatively small savings (even with retroactive inflation protection), while for a relatively mature plan with many pensioners the savings would be substantial.

Another method of alleviating the cost impact would be to allow some deferment, temporary or permanent, of the pension adjustments. For example the adjustments might be required to commence at age 65 even for a person retiring before that age. During phase-in, the adjustments might be required at a somewhat higher age, which could be gradually reduced. Typically, deferment of inflation protection for one year beyond retirement would reduce the cost of inflation protection for most persons by about 12 per cent; a three-year deferment would provide savings of about 32 per cent; and a five-year deferment would provide savings of about 48 per cent. The total cost savings for particular plans would again depend on the terms of the plan and on the demographic characteristics of the members.

Because of the number of variables affecting the savings which could be derived from phased-in or deferred inflation protection, we cannot determine specific cost figures. While the savings would typically be very modest for plans covering relatively young employee groups, they could be quite significant for the very mature plans for which the costs of inflation protection (particularly with retroactivity) are usually high. The savings would take on a particular importance for those plans which are already providing partial inflation protection, whether voluntary or not, since the cost savings derived from the phasing-in or deferment of mandatory inflation protection would bring the cost of the mandatory program closer to that of the existing inflation protection practice (especially where the existing practice is being prefunded to some extent).

A final method of assisting employers in meeting the funding cost of retroactive inflation protection would be to allow, at least initially, a longer-than-normal amortization period for the unfunded liability created by retroactivity. For example, the percentage-of-payroll payments required to amortize the unfunded liability over 25 years would typically be about 63 per cent of those required for 15-year amortization. An additional means of helping employers adjust to the higher funding payments would be to allow amortization payments which, as a percentage of payroll, would be lower in the earlier years of the amortization period than in the later years. For example a modified 25-year amortization schedule could allow the percentage-of-payroll payments to increase over the first 10 years and would require amortization payments in the first five years that would typically be less than 50 per cent of the payments required for a 15-year amortization.

However, it should also be recognized that a longer amortization period would not reduce the long-term cost of inflation protection or affect the expensing calculations made by accountants for financial statements. Moreover, some plan sponsors and their actuaries would be uncomfortable with an extended amortization period. The benefit security of plan participants would also be diminished to a certain degree by the extension of amortization periods, placing greater risks on the participants and on the guarantee fund in the event of a plan termination.

VI CONCLUSIONS

While the detailed analyses of Volume 3 provide a large number of insights that can help in understanding the cost impacts of inflation protection, the following general observations seem to be most relevant for the recommendations of the Task Force.

(1) Three CPI-linked formulas that have received public consideration result in similar costs and benefits if annual inflation rates remain about 5 to 6 per cent:

- 60% of CPI
- (75% of CPI) -1%
- (100% of CPI) -$2^1/_2$%.

This finding is important if the government wishes to offer a choice of formulas in its legislation. An excess earnings formula based on the fund rate minus 3.5% is somewhat more generous to the employee over the long term than are these three formulas, yet, as noted in Chapter 5, one may regard greater long-run generosity as an appropriate compensation for the greater risk that the employee will experience extreme outcomes.

(2) As can be seen in Volume 3 of the Research Studies, both the long-run costs of pensions and the costs of inflation protection as percentages of payroll usually decline as inflation projections rise. This is due partly to the fact that payrolls generally rise by more than the rate of inflation. Furthermore, for flat benefit and career average plans, as inflation projections rise, the level of pension benefits usually falls in real terms.

(3) For many plans, providing retroactivity in inflation protection effectively doubles or even triples the cost that would result from only prospective inflation protection. Hence, the decision on retroactivity is extremely important for costs. If inflation protection is prospective only, applying solely to benefits accruing after the date of legislation, costs will be much lower than if inflation protection is both prospective and retroactive, that is, applies to all pension benefits for both actives, retirees, and deferreds. We should note that retroactivity is an exceedingly complex subject and that we have devoted an entire chapter (Chapter 11) to various aspects of it.

(4) A most important determinant of the costs of retroactive inflation protection is the demographic composition of the plan members. At one extreme, a newly formed corporation with young employees and no retirees or deferreds may find that retroactive inflation protection could result in negligible costs. At the other extreme, a long-established corporation with older employees and many retirees and deferreds may find that retroactive inflation protection could result in huge costs.

(5) The timing of cost impacts will differ considerably between the traditional funding calculations and the expensing calculations required under the new CICA guidelines, and between these on the one hand and the long-run costs on the other hand. Moreover, the degree and direction of these differences will vary considerably among plans. That is, the estimates of cost impacts must be considered from three perspectives: short-run funding, short-run expensing, and long-run

costs. One's judgment about the cost of inflation protection will be affected by the relative weights one gives to these perspectives.

(6) The costs of inflation protection differ substantially among plans. This is true for both prospective and retroactive inflation protection and for each formula. These cost differences among plans are generally much more extreme for retroactive than for prospective inflation protection. For some plans, the current costs of retroactivity may be only one-half that of prospective inflation protection, while for others it may be three times as much. For example, Stage II analysis of first-year maximum additional funding costs showed that in plan 4 only 1.1 per cent of payroll would be needed for 100% of inflation protection with retroactivity, whereas in plan 17 it would take 4.5 per cent of payroll to get a modest 60% of inflation protection that is prospective only.

A number of factors can underlie these wide differences in cost impacts. As emphasized in point (4) above, demographics can vary substantially among plans. As discussed in Chapter 7, and as emphasized in point (5) above, the rules for funding and the rules for expensing affect different plans differently. As frequently indicated above, the extent and regularity of previous ad hoc improvements offset the size of the additional costs imposed by mandatory inflation protection, and these have differed significantly among plans. Furthermore, differences in the level of pension benefits also affect the cost of inflation protection for those benefits. This means that the more generous a plan has been the greater its exposure to cost increases as a result of mandatory inflation protection.

These differences in costs among plans must be considered in deciding upon the terms and conditions of mandatory inflation protection. If there are to be legislated minimum standards which individual plan sponsors may exceed in many cases, an important question concerns the weight to be given in setting those standards to those plans where even minimum standards will impose very large costs. Such plans might compel the selection of lower legislated standards than would be preferred if all plans were affected to the same degree.

(7) The results from Stage III calculations indicate that pension plan experiences differ greatly over time. From 1967 to 1986 the annual CPI increases ranged from 4 per cent to 12 per cent and the real return to a portfolio of 50 per cent bonds/50 per cent equity ranged from -23 per cent to +20 per cent. Even though a plan might be able to afford a certain inflation protection formula over the long term, there will probably still be times when that formula will add greatly to plan costs. This will be especially true for a salary-related plan if inflation is high when fund earnings are low. Once again, this means that legislated standards may have to be lower than one would choose if one were only considering the long-term impact. It also suggests putting a cap on the annual inflation adjustment so as to moderate the impact in unfortunate times. Furthermore, some may believe that provision for exemptions must be part of mandatory inflation protection in order that employers who cannot readily cope with exceptionally high cost increases can appeal for modifications and/or delays in meeting the legislated standards. This point lends weight to the argument that government should assist the inflation protection process by issuing indexed bonds, which would maintain a constant real return on fund assets even in difficult times.

(8) After calculating the cost of a certain inflation protection formula, it is difficult to judge whether that cost is unacceptably high. Judgments in this regard will vary among individuals and may vary over time. Would a cost for inflation protection of 10 per cent of payroll be unacceptably high? Would 2 per cent be? There is no simple criterion on which to judge these costs. Furthermore, the answer will probably differ between firms. For a firm with much capital and relatively few employees, 10 per cent of payroll may represent a very small percentage of total costs. Yet for a firm that is labour-intensive, 10 per cent of payroll may represent close to 10 per cent of total cost.

As noted in point (5) above, for some firms the funding cost may be of greatest concern, while other firms may focus on accounting and expensing costs. Consequently, the decision to reject a certain formula on the basis of costs and to advocate a less generous formula is a decision about which honest judgments will differ. The same is true of the decision on retroactivity.

TABLE 8.1

CHARACTERISTICS OF THE 13 MODEL PLANS ANALYSED IN STAGE I

	Employee Contribution	Benefit Accrual Rate			Post-Termination Updates (% CPI)		
Plan Type	Above/Below YMPE (% Earnings)	Above/Below YMPE (% Earnings)	Normal Retirement Age	Pre-Termination Updates (% Earnings)	Retireds	Deferreds	Plan Population
Private Sector							
1 Flat Benefit	None	0.6/0.6	65	100	0	0	Mature
2 Flat Benefit	None	1.2/1.2	60	100	70	0	Mature
3 Career Average	3.3/5.0	1.3/2.0	65	0	0	0	Average
4 Career Average	3.3/5.0	1.3/2.0	65	100	0	0	Average
5 Career Average	3.3/5.0	1.3/2.0	60	100	40	0	Average
6 Career Average	None	0.8/1.5	65	100	0	0	Average
7 Career Average	None	0.8/1.5	60	100	40	0	Average
8 Final Average	3.3/5.0	1.3/2.0	65	100	0	0	Average
9 Final Average	3.3/5.0	1.3/2.0	60	100	40	0	Average
10 Final Average	None	0.8/1.5	65	100	0	0	Young
11 Final Average	None	0.8/1.5	60	100	40	0	Young
Public Sector							
12 Final Average	5.3/7.0	1.4/2.0	65	100	40	0	Average
13 Final Average	5.3/7.0	1.4/2.0	60	100	70	0	Average

NOTE: YMPE = Year's Maximum Pensionable Earnings, taken as equivalent to the Average Industrial Wage.

SOURCE: Volume 3, Research Studies

TABLE 8.2

FIRST-YEAR FUNDING AND EXPENSING COST OF PARTIAL INFLATION PROTECTION (STAGE II)

Percentage of payroll, (75% of CPI) -1%

Plan Number (Code)	Funding				Expensing			
	Prospective		Retroactive		Prospective		Retroactive	
	Max.	Pot'l	Max.	Pot'l	Max.	Pot'l	Max.	Pot'l
Flat benefit (single employer)								
1 (1)	0.54	0.00	1.98	0.00	0.49	0.00	3.43	0.00
2 (3)	0.80	0.80	3.16	3.16	0.74	0.74	5.56	5.56
3 (4)	0.50	0.32	1.92	1.23	0.45	0.29	3.41	2.24
4 (6a)	0.23	0.23	0.51	0.51	0.19	0.19	0.74	0.74
Flat benefit (multi-employer)								
5 (8)	0.69	0.38	0.88	0.48				
6 (8c)	0.25	0.14	0.70	0.39				
Career average (contributory)								
7 (11)	0.37	0.03	1.55	0.10	0.80	0.08	3.90	0.42
8 (12)	0.50	0.50	1.46	1.46	0.91	0.91	3.62	3.62
Career average (non-contributory)								
9 (16)	0.61	0.61	0.98	0.98	1.01	1.01	2.20	2.20
10 (17)	1.24	1.24	3.65	3.65	1.77	1.77	8.47	8.47
11(17a)	1.06	0.00	3.19	0.00	1.66	0.00	6.66	0.00
Final average, private (contributory)								
12 (19)	3.30	0.22	7.47	0.50	3.32	0.36	12.07	1.31
13 (20)	2.07	0.59	4.59	1.31	2.11	0.67	7.48	2.37
14 (21)	2.35	0.00	4.48	0.00	2.36	0.00	6.87	0.00
Final average, private (non-contributory)								
15 (24)	2.38	0.16	8.06	0.54	2.35	0.25	14.27	1.53
16 (29)	2.13	2.13	3.02	3.02	2.15	2.15	4.03	4.03
17 (30)	3.86	0.00	9.73	0.00	3.92	0.00	16.33	0.00
Final average, public (contributory)								
18 (34)	2.08	2.08	9.84	9.84				
19 (35)	0.00	0.00	0.00	0.00				
20(35a)	3.33	0.00	6.24	0.00				
21(35b)	2.49	0.00	5.61	0.00				
Hybrid: flat benefit and final average (non-contributory)								
22 (36)	0.84	0.24	4.60	1.31	0.76	0.24	8.61	2.73
Summary Statistics								
Max.	3.86	2.13	9.84	9.84	3.92	2.15	16.33	8.47
Min.	0.00	0.00	0.00	0.00	0.19	0.00	0.74	0.00
Mean	1.44	0.44	3.80	1.29	1.56	0.54	6.73	2.20
Std Dev	1.13	0.61	2.99	2.15	1.05	0.63	4.25	2.27

NOTE: Pot'l - Potential; 'Code' is the plan number used in Volume 3. Expensing costs are not applicable to public sector and multi-employer pension plans.

SOURCE: Research Studies, Volume 3

TABLE 8.3

SOURCES OF VARIABILITY BETWEEN PLANS (STAGE II)

Plan Characteristics

Plan Number (Code)	Estimated Implicit Inflation Protection (% CPI)	Approx. Annual Benefit Accrual Rate (% Earnings)	Normal Retirement Age	Actives Average Age	Actives Average Years Service	% Males	Liability for Retireds & Deferreds (% of Total)	Funded Ratio**
Flat benefit (single employer)								
1 (1)	70	0.76	60	41.4	14.5	85	42	0.92
2 (3)	00	0.96	60	43.5	18.7	100	34	0.56
3 (4)	20	0.69	60	38.4	13.4	99	56	0.83
4 (6a)	00	0.58	65	39.4	9.1	79	17	0.88
Flat benefit (multi-employer)								
5 (8)	25	1.43	65	40.2	14.7	100	5	1.35
6 (8c)	25	0.51	65	42.2	11.3	77	27	0.82
Career average (contributory)								
7 (11)	50	1.51	65	39.8	8.0	74	40	1.41
8 (12)	00	1.26	63	38.8	8.9	75	49	1.27
Career average (non-contributory)								
9 (16)	00	1.40	65	39.6	5.7	62	20	1.26
10 (17)	00	1.75	61	41.5	15.6	77	50	0.90
11 (17a)	55	1.69	62	40.6	10.7	74	45	1.03
Final average, private (contributory)								
12 (19)	50	1.66	62	38.9	9.9	73	35	1.02
13 (20)	40	1.66	65	44.6	8.8	86	42	1.42
14 (21)	60	1.43	63	41.9	8.7	69	23	1.13
Final average, private (non-contributory)								
15 (24)	50	1.44	61	37.1	11.2	78	63	0.78
16 (29)	00	1.57	65	33.9	4.7	66	3	1.13
17 (30)	60	1.45	60	36.2	10.4	36	38	1.20
Final average, public (contributory)								
18 (34)	00	1.58	65	51.0	27.4	95	43	0.97
19 (35)	*	1.66	65	42.6	9.2	54	14	1.01
20 (35a)	60	1.42	63	42.6	9.4	21	22	1.11
21 (35b)	100	1.44	62	41.3	11.4	59	30	0.93
Hybrid: flat benefit and final average (non-contributory)								
22 (36)	40	1.34	62	43.5	16.7	72	57	0.74

* Plan 19 has an explicit inflation protection policy which is prefunded using a 4.5% discount rate during retired years. This is equal to about 55% of the assumed 4.5 per cent long-run inflation rate. The (75% of CPI) -1% formula provides about 52% protection.

** If the funded ratio is greater than 1.00, the plan's assets exceed its liabilities and the fund has a surplus. See Chapter 13 for a discussion of surplus.

SOURCE: Research Studies, Volume 3.

TABLE 8.4

ANNUAL COST OF PARTIAL INFLATION PROTECTION (STAGE III)

Percentage of payroll, (75% of CPI) -1%

			Flat Benefit		Career Average		Final Average	
Year	CPI	Fund Real Return	Funding	Expensing	Funding	Expensing	Funding	Expensing
1967	4.20	4.65	2.05	2.50	0.68	1.24	2.12	2.17
1968	4.03	6.68	1.80	2.20	0.67	1.25	2.44	2.21
1969	4.65	-4.98	1.50	2.00	0.64	1.20	2.30	2.18
1970	1.48	7.61	1.70	2.30	0.72	1.28	2.56	3.15
1971	4.87	4.68	2.10	2.30	0.50	1.16	3.49	2.72
1972	5.10	8.70	2.90	2.00	0.57	1.14	5.03	3.25
1973	9.27	-7.58	4.30	2.20	0.58	1.13	2.74	3.35
1974	12.32	-23.26	4.40	2.90	1.02	1.47	4.15	4.27
1975	9.53	1.02	5.60	3.40	1.82	1.88	12.33	6.85
1976	5.91	8.59	7.00	4.00	2.25	1.88	14.59	8.19
1977	9.46	-1.02	6.50	4.30	2.18	1.69	12.30	7.82
1978	8.36	6.59	6.40	3.80	2.45	1.72	14.28	7.63
1979	9.80	10.27	7.50	4.30	2.56	1.78	13.11	6.54
1980	11.19	4.41	6.00	4.10	2.02	1.82	7.32	4.97
1981	12.10	-16.71	4.90	3.50	1.75	1.79	4.53	4.91
1982	9.26	13.73	7.70	5.50	2.57	2.33	9.58	8.52
1983	4.55	17.21	6.70	5.60	2.42	2.14	8.85	7.79
1984	3.76	2.50	4.70	3.80	1.74	1.62	5.55	5.30
1985	4.35	19.95	4.40	3.90	1.56	1.67	3.20	4.43
1986	4.17	8.71	1.20	2.60	0.36	1.25	-3.26	0.19
Summary Statistics								
Max.	12.32	19.95	7.70	5.60	2.57	2.33	14.59	8.52
Min.	1.48	-23.26	1.20	2.00	0.36	1.13	-3.26	0.19
Mean	6.92	3.59	4.47	3.36	1.45	1.57	6.36	4.82
Percentage increase in variability over no inflation protection			42	44	27	38	44	45

NOTE: These three plans also appear in Stage II. The flat benefit is plan 2; the career average is plan 8; and the final average is plan 17.

SOURCE: Research Studies, Volume 3

CHAPTER 9

Financial Instruments and Capital Markets

Chapter 7 explored funding, accounting, and tax considerations which plan sponsors face. This chapter considers another important institutional factor, the capital market. Pension funds have come to play a significant role in Canadian capital markets, as illustrated by the background study by Keith Ambachtsheer, 'The Potential Impact of Inflation Protection on Capital Markets', contained in Volume 3 of this Report. In 1986, for example, Canadian trusteed pension funds held approximately $150 billion in assets.

Sponsors' investment choices are limited by the existing range of financial instruments. In the first section we discuss how sponsors might cope with mandatory inflation protection using the existing array of financial instruments. There is also an analysis of the role that index-linked assets could potentially play.

In the second section, possible capital market adjustments to the imposition of mandatory inflation protection are examined. Potential effects on both aggregate saving and the demands for particular asset types are canvassed. Inflation protection formulas that are less likely to bring about potentially disruptive adjustments are to be preferred. However, the importance to be assigned to potential disruptiveness in evaluating alternative formulas depends on the nature and probability of effects on the capital market.

I FINANCIAL INSTRUMENTS

A The Need For Inflation-Proof Assets

Even if they did not have to provide mandatory inflation protection, many sponsors, particularly sponsors of smaller plans, would probably prefer to hold assets whose value is not lowered whenever the rate of inflation increases.

Sponsors of final average pension plans have liabilities which are tied to wage and salary levels. Since the latter usually incorporate inflation, it is desirable to hold pension fund assets whose real value does not decline when inflation rises. In addition, many sponsors already grant adjustments to pensions (see Chapter 3). To continue this practice, they would like to hold assets which do not decline in value when the rate of inflation rises. Plan sponsors therefore would normally put a premium on assets whose value is not depressed by inflation, even without the responsibility of mandatory inflation protection.

At the same time, particularly for the smaller employer, the introduction of a mandatory inflation protection formula which is either CPI-linked or based on an external excess earnings benchmark intensifies the need for inflation-proof assets. Unlike ad hoc adjustments, mandatory escalation involves a commitment on the part of the sponsor. Unfortunate investment experience does not relieve the sponsor of the commitment. With mandatory inflation protection, fund liabilities are updated to reflect inflation. Thus one would expect sponsors to prefer assets whose returns also automatically incorporate inflation in order to avoid having unfunded liabilities. Mandatory inflation protection will therefore increase the demand for inflation-proof assets. Some employers may be unprepared to accept the risk and may wish to insure the benefits for employees when they retire. Thus, insurance companies providing insured indexed annuities (and who also want to match assets and liabilities) would be an important source of demand for indexed investment instruments.

B Conventional Assets Are Not Inflation-Proof

History shows that the 'real' value (after accounting for inflation) of most conventional financial assets tends to decline when the rate of inflation rises.[1] This is true for common stocks and for long-term bonds. The real value of short-term securities (such as Treasury Bills) also declines when the rate of inflation rises unexpectedly, although less than stocks and bonds. Thus mandatory inflation protection might bring a shift towards shorter-term assets, which, while not completely inflation-proof, are less adversely affected by inflation. This possible response is explored in more detail below.

Other responses are also possible. Since the 1970s, high levels of inflation have led to increased concern about inflation-proofing. Sponsors began to manage their funds more actively, seeking strategies which might minimize inflation damage. The usual approach was to opt for shorter-term securities. Alternatively, some pension funds invested in real estate, which tends to be a relatively inflation-proof investment.

Generally, however, plan sponsors have not been able to fully immunize their pension funds from inflation and have usually been faced with assets which decline in real value when the rate of inflation rises. The only way to avoid this problem completely is to invest in non-conventional, 'index-linked' assets.

C Index-Linked Assets

The basic idea in linking asset returns to an index is to immunize the assets' real value against inflation. The return on such an asset consists of a constant 'real' component plus an 'inflation premium' that fully incorporates actual inflation. A sponsor whose pension obligations are inflation-protected could simply count on using this 'inflation premium' to cover pension escalation factors. With conventional assets, the sponsor could not assume that the return on fund assets would be sufficient to cover inflation protection.

One type of index-linked asset that exists in Canada is the index-linked mortgage (ILM). ILMs were first issued in 1986 by the Co-Operative Housing Foundation of Canada in conjunction with the Canada Mortgage and Housing Corporation (CMHC). It is expected that between $250 million and $300 million worth of ILMs will be issued to finance new co-operative housing projects every year until 1991. The outstanding principal and accrued interest are fully insured by the CMHC. Thus, the ILM is already available for pension fund investments and is quite secure.

Annual interest payments on ILMs consist of a real component (recently 4 to 5 per cent) plus an inflation component. The inflation component is equal to the actual year-to-year change in the Consumer Price Index for the period ending six months previous. The mechanics of ILMs and their rationale are explored in more detail in the background study by Jeffrey Trossman and

James Pesando, 'Financial Instruments that may Assist in the Provision of Inflation Protection'. An existing, virtually inflation-proof asset, ILMs could facilitate the provision of inflation-protected pensions.

There are two potential difficulties with using ILMs in the immediate future. Only $250 million to $300 million worth of ILMs are expected to be issued each year, a very small proportion of total pension fund assets. However, it should be noted that ILMs are most needed to cover the indexed pension benefits of retirees. For active members index-linked assets are still desirable, although not as crucial. The other major difficulty is the fact that a secondary market for ILMs has not yet developed. This lack of liquidity has not deterred many pension plan sponsors who have already purchased ILMs. Indeed, about 90 per cent of the ILMs issued to date have been purchased by pension plans. Moreover, it is expected that a secondary market in ILMs will eventually develop.

The index bond is another financial instrument which could facilitate the provision of inflation protection. Like ILMs, index bonds are adjusted to reflect actual inflation, although the adjustments are made in different ways. However, index bonds do not yet exist in North America.

Since 1981 the British government has been successfully issuing index bonds, most of which are held by pension funds. Ownership of these index bonds was originally restricted to pension funds and other non-taxable institutions. Since 1985, a change in the tax laws has made them available to all investors, but pension funds still account for 44 per cent of total holdings of British index bonds. From 1981 to 1986, nearly 11 billion pounds sterling of index bonds were issued by the British Treasury, accounting for 35 per cent of all Treasury debt issued over that period.

The Task Force considers the British experience to be particularly instructive. Index bonds have proven to be a viable instrument for both the government and investors such as pension funds. By all accounts, the British experience has been successful. Moreover, a diverse assortment of economists, including Nobel laureates James Tobin and Milton Friedman, have long endorsed index bonds. There is considerable literature attempting to explain the (paradoxical) non-existence of index bonds in North America.

There is a strong argument in favour of making index bonds available,[2] yparticularly if a relatively onerous inflation protection formula is chosen.

They would be especially valuable for small employers and life insurance companies that wish to minimize risk. The Task Force recognizes that it would greatly facilitate matters for plan sponsors if either the federal government or the Ontario Government (or, indeed Crown Corporations such as Ontario Hydro) were to float issues of index bonds when mandatory inflation protection is implemented. Index bonds could do much to facilitate the provision of inflation-protected pensions by allowing plan sponsors to inflation-proof their pension funds.

II EFFECTS ON CAPITAL MARKETS

A Aggregate Effects

In theory, mandatory inflation protection might have some effects on the Ontario economy. In particular, the aggregate savings rate might be affected. Unfortunately, theory provides little guidance about the magnitude or direction of any effects.

Some factors suggest that mandatory inflation protection might increase aggregate savings, while other factors point to a decrease. If employment pensions result in forced 'over-saving', mandatory inflation protection, to the extent that it increases the size of pensions, will have a positive impact on aggregate saving. On the other hand, the tax assistance received by employment pensions makes pension saving more 'efficient' than other saving, so that a mandated increase in pension saving leads to a net decline in aggregate saving. Furthermore, mandatory inflation protection might reduce the need for precautionary saving as both active workers and the retired respond to the increased security of the real value of their pension payments. As stated by one well-known American pension expert, 'the net effect of private pensions on aggregate saving is theoretically indeterminate'.[3] Empirical studies involving Canadian data have tended to indicate that aggregate saving is insensitive to whether or not pension payments are indexed.[4]

Even if the level of saving is affected, there is reason for concern only if there is a resulting impact on the amount of capital available for business investment. Since Canada is a relatively open economy, international capital flows are likely to limit the ultimate impact on business investment of any changes in aggregate saving. In short, the effect of mandatory inflation protection on the aggregate supply of capital available to the Ontario economy is likely to be minimal.

B Possible Effects on the Preferred Asset Mix*

The Short Run:

Keith Ambachtsheer's paper, contained in Volume 2 of the Research Studies, indicates that unrestricted trusteed pension plan funds are invested about equally in 'equity-oriented' and 'debt-oriented' investments, as Table 9.1 shows. On the other hand, RRSPs tend to be much more heavily invested in debt-oriented investments, in part because individuals tend to be more conservative when investing for themselves. Unlike sponsors, individuals would be severely harmed by adverse investment experience. Sponsors generally have a longer-term perspective than employees and tend to invest more aggressively, thereby obtaining better long-term returns. For individuals, retirement planning ends at retirement, so they adopt a less risky investment strategy than sponsors, whose planning is continual. A trend away from defined benefit plans, even without mandatory inflation protection, would probably lead to a shift from equity-oriented to debt-oriented domestic saving in the coming years.

Some submissions to the Task Force expressed concern that mandatory inflation protection would accelerate the movement of funds toward safer, debt-oriented investments. The fear is that sponsors will convert their defined benefit plans to money purchase plans or RRSP-type arrangements, resulting in such a shift. As stated in one submission: 'with the growth of defined contribution plans this prime source of risk capital will cease to exist, with the result that Canada will be even more dependent upon foreign risk capital.[5] The concern over such conversions was examined in Chapter 2.

---

* *This section relies heavily on Keith Ambachtsheer's Research Study, contained in Volume 2, 'The Potential Impact of Mandated Inflation Protection on Capital Markets'.*

The probability that sponsors will terminate their defined benefit plans probably depends upon how onerous they find the formula for mandatory inflation protection. Retroactivity is one feature that could encourage terminations. If the formula is viewed by sponsors as extremely severe, there is a reasonable possibility of substantial conversion; according to Keith Ambachtsheer, it is conceivable that half of the funds now in defined benefit plans could move to money purchase type arrangements. Ambachtsheer warns that a 'large-scale conversion from defined-benefit plans to money purchase plans ... might happen if ... the inflation protection formula turns out to be both onerous and retroactive'.

The resulting rapid, massive movement of funds could cause material disruptions in the capital markets. In particular, there might be a shortage of domestic risk capital. If funds moved out of defined benefit plans (which are invested relatively heavily in common stock) and into money purchase plans or RRSPs (which are concentrated in less risky debt), Canadian companies might find it difficult to raise domestic risk capital. Firms might then decide to raise equity capital from foreign sources, increasing foreign ownership. Alternatively, firms might shift their capital structures away from equity and towards debt. Such an adjustment would tend to increase the debt-equity ratios of Canadian corporations, thereby weakening their financial position. Although capital market considerations must be examined in an overall context, the Task Force considers it desirable to avoid major disruptions that might result from a formula which is viewed as especially onerous.

Even if the formula is not regarded as severe enough to warrant terminations of defined benefit plans, there are other possible effects, though their overall impact cannot be predicted. If index-linked assets are not available, sponsors trying to limit their exposure to inflation risk might invest pension fund reserves in short-term securities such as Treasury Bills, causing a shift in domestic pension-related savings towards short-term debt.

However, sponsors might also do just the opposite. They might decide that the added costs of inflation protection require higher fund returns and therefore increase their equity investment, bringing an attendant increase in their investment risk.

In general the effects of moderate inflation protection on the asset mix of the total sum of pension funds will probably be minimal. The asset mix of small firms' pension plans may be affected, but this will not influence the market very much. In a survey of large-fund managers and sponsors conducted for the Task Force, Keith Ambachtsheer found that about 75 per cent (perhaps surprisingly) indicated that their asset mix policy would not change at all in response to mandatory inflation protection. Moreover, of those who indicated they would change their asset mix, as many would move towards more equity-oriented investments as would move towards short-term investments. The survey was done before the market decline in October, and the answer might be somewhat different today, as Ambachtsheer points out in an addendum to his paper. Since plan sponsors are more aware than previously of the riskiness of pension plan assets, the greater riskiness of liabilities because of inflation protection is likely to evoke more conservatism than before October. Still, the immediate impact on financial markets is likely (though not certain) to be minimal if the formula is a moderate one.

There is another mitigating factor over the short run. The recommendations of the Rowan Task Force on Investment of Public Sector Pension Funds, if implemented, could release an annual flow of $3 billion or more from non-marketable securities into the capital market. Thus, any shift by private sponsors away from defined benefit plans towards debt-oriented securities would be at least partially offset by the movement of public sector funds from non-marketable securities to marketable assets. This would reduce any potentially disruptive short-run effects on the capital market.

The Long Run:

Apart from any short-run impact, longer-term disruptions to the capital market might occur if and when another high inflation period were experienced. During the high inflation of 1973-82, historical data indicate that if inflation protection had been mandatory, sponsors could have achieved higher returns by investing their entire portfolios in Treasury Bills than by investing in the usual asset mix, whereas the usual asset mix generally does better than Treasury Bills. Thus a similar period of high inflation in the future, in the presence of mandatory inflation protection, would give sponsors an incentive to 'bail out' of the stock and bond markets altogether in favour of Treasury Bills.

The result of such a bail out would be a sharp decline in prices in both stock and bond markets that magnifies the negative impact of a 1973-82 experience on the capital markets. One way to avoid such a potential disruption would be to have a cap on inflation protection which is related to capital market returns on the usual pension fund portfolios. ('Caps' were discussed in Chapter 5 of this Report.)

We conclude that a moderate inflation protection formula will not have a significant impact on pension fund asset mix and hence on the capital market. However, a prolonged period of exceptionally high inflation, accompanied by low or even negative real returns on assets, would create funding problems for many plans and could lead to capital market disruptions. A cap on the level of inflation protection would be very important in such situations. We have also noted that government issuance of index bonds would facilitate the provision of inflation protection.

NOTES

1. See the background paper by James E. Pesando in Volume 2 entitled 'Assessment of Alternative Formulas for Delivering Inflation Protection', Table 3.1.

2. John Bossons, 'Indexed Bonds as an Instrument of Pension Reform' (1984), Toronto: Ontario Economic Council, p. 327.

3. Alicia H. Munnell, The Economics of Private Pensions (1982), Washington, D.C.: The Brookings Institution, at p. 64.

4. Louis Dicks-Mireaux and Mervyn King, 'Pension Wealth and Household Savings: Tests of Robustness' (1985), Journal of Public Economics, vol. 23, p. 115.

5. Submission of Allenvest Group Ltd. to the Task Force on Inflation Protection for Employment Pension Plans, May, 1987.

TABLE 9.1

PENSION FUND INVESTMENT POLICIES

1986 asset mix policies of the three retirement savings categories

	Equity-Oriented Investments		Debt-Oriented Investments (marketable)		Debt-Oriented Investments (non-marketable)	
	%	$ (billions)	%	$ (billions)	%	$ (billions)
Trusteed Pension Funds - Unrestricted	50%	$50	50%	$50	0	0
Trusteed Pension Funds - Restricted	20%	$10	80%	$40	0	0
RRSPs	10%	$5	90%	$45	0	0
CPP, QPP, Non-Trusteed Government Pension Plans	3%	$3	7%	$7	90%	$90
Total Dollar Values ($ billions)		$68		$142		$90

NOTE: The Trusteed Pension Funds have been divided in 'Unrestricted' and 'Restricted' to reflect the fact that a number of large provincial and municipal funds have historically been restricted to largely bond investments.

SOURCE: Table II of Keith Ambachtsheer's paper in Volume 2 of the Research Studies, 'The Potential Impact of Mandated Inflation Protection on Capital Markets'.

CHAPTER 10

Deferred Pensioners

In its terms of reference the Task Force has been asked to deal with the impact of inflation protection on the three categories of employees: actives, retireds, and deferred vesteds, in most cases simply called 'deferreds'. The latter are individuals who have departed from an employer leaving an accrued pension entitlement which they will not receive until the retirement age specified in the plan. Of the three groups, deferreds present unique problems which require special attention when discussing the possible implementation of an inflation protection scheme.

Some of the problems surrounding basic pension benefits for deferreds have been addressed by three of the recent reforms contained in the Ontario Pension Benefits Act, 1987: earlier vesting, increased portability, and the 50% employer contribution rule. In general, this rule, as we shall see below, requires that the employer's contribution at least match the employee's contribution. Consequently, any inflation protection formula must be introduced within the context of these reforms. In particular, the combined effect of the 50% rule and inflation protection may prove burdensome to employers in terms of cost. From a different approach, quite irrespective of cost, inflation protection might better protect deferred benefits and render the 50% rule unnecessary. This seems to be the implicit conclusion one reaches from a reading of the federal Pension Benefits Standards Act (PBSA), discussed below, in which inflation protection for deferred benefits by the (75% of CPI) -1% formula allows a plan sponsor an exemption from the 50% rule.

I DO DEFERREDS NEED DIFFERENT TREATMENT?

In the absence of inflation protection, deferreds suffer from both the pre-retirement and post-retirement effects of inflation. In the absence of any voluntary benefit increases by the employer, once an employee departs from a company leaving a vested benefit, the real value of that benefit begins to erode from inflation, and it continues to erode during the employee's remaining working years and after retirement. Whereas active workers, especially where represented by unions, and retireds to a lesser extent, will likely see their pension benefit base or actual benefits rise either through negotiated settlements or ad hoc increases, it is unlikely that deferreds will get the same treatment.

The reasons for this seem straightforward. Why should employers or active employees voluntarily move to protect the deferred pensions of former employees? For employers, this protection would be an added cost with no balancing tradeoff at the bargaining table; that is, it is a cost which could not be passed on to employees. Consequently, most employers do not provide indexing of deferred benefits. For active employees, increases to deferreds would be tantamount to foregone compensation for themselves, the voting membership of the union in collectively bargained agreements. This absence of representation on behalf of the deferreds would be magnified by any ill feelings about the departing employee that might have been felt by his or her fellow workers or employer. Moreover, it is difficult for deferreds to advance their own cause because as individuals they are isolated and employers have no incentive to listen to their representations in any case. Since in our mobile society the average employee changes employers five or six times, either voluntarily or through employer action,[1] a substantial portion of pension plan members will retire with benefits that have been seriously eroded over time if left with the original employers. Even at retirement when a deferred pension is first paid, its real value will be seriously reduced.

Where plans are contributory, another serious problem arises if there is no benefit protection: if an employee terminates at a young age, the value of the contributions plus accumulated interest might be more than sufficient to pay for the employee's entire benefit entitlement. Such a possibility exists because the value of pension benefit accruals estimated using a unit credit funding method typically increases sharply with age, if high interest rates are assumed. In general, the percentage of a member's benefit purchased by the member's own contributions will decrease with age. Therefore, an employee terminating early on in his or her career will have made contributions when the accrued benefits were only building gradually. Having terminated early, the employee was gone when the value of the benefits escalated more rapidly in later years. (Moreover, the terminated employee will have likely missed out, as described above, on any benefit increases given to active plan members.) This situation is magnified by high interest rates, that is, given employee contributions that are a constant percentage of income, higher interest rates will lengthen the time during which the former employee's early contribution alone will continue to more than cover his or her accruing pension benefit.[2]

Given these concerns unique to deferred vested employees (that is, deferred benefits rarely receiving ad hoc increases and the rapid escalation in later years of the value of benefits per dollar of contribution), specific reforms have been implemented in an attempt to ameliorate their situation, especially those problems found in contributory plans.

II LEGISLATIVE TREATMENT OF DEFERREDS

In general, legislative treatment of deferreds involves earlier vesting, portability provisions, and the 50% rule. According to the Federal-Provincial Consensus of 1985, post-reform benefits were to be vested and locked-in after two years of membership in the pension plan. This provision is therefore present in both the Ontario Pension Benefits Act, 1987, in sections 38 and 64, and in the federal PBSA, in sections 17 and 18. Earlier vesting and locking-in do not directly address the concerns outlined above, that is, this reform does not consider the adequacy of a deferred benefit. Rather, it ensures that more people will be entitled to a benefit. In the absence of other reforms, therefore, earlier vesting would mean that in absolute terms there would be more deferreds experiencing the kind of problems alluded to above.

The Federal-Provincial Consensus also attempted to make pension benefits more portable. In the Pension Benefits Act, 1987, Ontario has adopted the Consensus position. According to Section 43, a former plan member has three transfer options on termination. First, the commuted value of the deferred pension may be paid into another plan, if the other plan agrees to accept the monies. Second, the commuted value may be paid into a prescribed retirement savings vehicle such as a locked-in RRSP. The locked-in RRSP provides growth during the pre-retirement period, but may not be as attractive to some terminated employees as leaving the funds with the company if there is inflation protection. Finally, the commuted value may be used to purchase a life annuity as long as the payments do not begin more than ten years before the worker's normal retirement date. Since these provisions apply to members retiring after the Act comes into force on benefits earned before that date, it appears to be retroactive to a degree. These portability options are not available to a person entitled to immediate payment of a pension benefit either under the terms of the plan or when the member is within ten years of reaching the normal retirement date (S. 42 of the Act).

The federal PBSA contains essentially the same provisions in Section 26, although it appears that the second option, transfer to a retirement vehicle, is restricted to locked-in RRSPs. In general, the purpose of portability provisions appears to be to allow members to control the funds they are entitled to, either by placing them in a retirement vehicle or by transferring them to their new employer's fund. In this way, one would hope the new fund would help protect the accrued benefit from pre-retirement inflation either through its own income generation or through the actions of the new employer. As we shall see below, there may be problems with portability and inflation protection.

The third Federal-Provincial Consensus reform was the 50% employer contribution rule. The purpose of this reform is to address directly the problem arising in contributory plans that 'backloading' in funding procedures will result in little or no employer contributions to the commuted pensions of those who terminate at a young age. Thus, Section 40 of the Ontario Pension Benefits Act provides that the value of the deferred pension will be raised where the pension's value is less than the amount of the employee's own contributions plus interest for pre-January 1987 contributions. According to subsection 3, the employee's contributions plus interest will not constitute more than 50% of the commuted value of benefits accrued after January 1987.

Two pieces of Canadian legislation go further than the Federal-Provincial Consensus in the protection of deferreds by using inflation protection as either an option or a requirement for the protection of deferred benefits. The federal

PBSA, in subs. 21(2), mandates the 50% employer contribution rule. However, subs. 21(5) states:

> Subsection (2) does not apply where a defined benefit plan provides for annual indexation of a deferred pension benefit, up to the day when that deferred pension benefit commences to be paid, on the basis of
> (a) increases of at least 75 per cent of the annual increase of the Consumer Price Index, minus one per cent; or
> (b) any other formula that, in the Superintendent's opinion, would provide protection that on the average would be comparable to that described in paragraph (a).

Consequently, an employer providing inflation protection by the formula or its equivalent is relieved from the 50% rule.

The province of Nova Scotia, in its Pension Benefits Act, 1987, goes further in the protection of deferreds by mandating inflation protection. Section 17(4) of the Act states: 'A pension plan is not eligible for registration unless it provides for annual indexation of a deferred pension benefit as prescribed.' The formula for escalation is to be elaborated upon in the regulations. The provision does not apply to defined contribution plans or to benefits from additional voluntary contributions. There is also, according to subs. 17(6), an exemption from the indexation provision where 'justified in the circumstances'.

While it is likely that the Nova Scotia formula eventually prescribed will be similar to the federal (75% of CPI) -1% formula, one must remember that inflation protection of deferred benefits is mandatory and not simply an option in this Bill. Moreover, deferreds in Nova Scotia will continue to be protected by the 50% rule, according to subs. 47(3) of the Act.

Given this divergence in approach between the federal government and Nova Scotia on the interchangeability of the 50% rule and inflation protection for deferreds, it is necessary to examine more closely the relationship between the two approaches.

III THE 50% RULE AND INFLATION PROTECTION

A closer analysis of the operation and interaction of these two reform initiatives indicates that they are very different in nature. If one accepts that some form of protection is necessary, it is perhaps best to approach the analysis by first asking: 'Given the presence of the 50% rule in the new Act, do we need mandatory inflation protection for deferreds?'

The answer to this question is clearly 'yes', if one wants effective inflation protection for deferred pensioners who keep their pensions with the company. In the first place, one must recall that the rationale behind the 50% rule is to protect the benefit in contributory plans, where the vested benefit, because of inflation and/or early termination, may be worth no more than the employee's own contribution. As is noted in Chapter 2, the number of members in private sector contributory plans is about 46 per cent; the 50% rule does nothing for the other 54 per cent who are in non-contributory plans. If one accepts the premise that pension benefits represent some form of foregone compensation, then, as Professor Pesando says, 'there is no logical reason to exclude them [i.e. those in non-contributory plans] from legislation designed to preserve, at least in part, the real value of their deferred pensions during the deferral period'.[3]

Moreover, inflation protection will give better protection than now exists to those employees who change jobs more frequently. Without inflation protection, a terminated employee's benefit once determined (and even with the 50% employer contribution) may not escalate. Yet employees who remain in the plan will likely receive benefit updates incorporating inflationary increases to some extent. These updates might come as a result of the plan itself, if a final average plan, or through discretionary or negotiated increases in career average and flat benefit plans.

If we now reverse the question, 'Given legislated pre-retirement inflation protection, do we now need the 50% rule?', the answer is less straightforward. Inflation protection will largely prevent the erosion of the pre-retirement benefit base and therefore will clearly improve the effective portability of deferred benefits. Further, the commuted values of the pensions will rise when lower interest rates are used to determine the present value of future pension payments. However, it is still possible that, even with inflation protection, a young employee's contributions may be sufficient to purchase in excess of 50% of his or her accrued benefit.

One can conclude therefore, from the point of view of most employees, that with respect to pre-retirement benefits, inflation protection is the better of the two reforms, yielding high benefits in the long term and applying to both contributory and non-contributory plans. With inflation protection, in the long-term, the 50% rule would be neither much more costly nor of much greater benefit to terminating employees. The virtue of the 50% rule remains in the short term, especially in career average plans. Thus, inflation protection is necessary even with a 50% contribution rule for benefits that are left in a plan, while the 50% rule may still be desirable even with inflation protection.

IV TRANSFER OPTIONS

As noted above, S. 43 of the Ontario Pension Benefits Act, 1987 provided three transfer options to terminating members entitled to deferred pension benefits: transfer of the commuted value to another plan if accepted by the other plan, transfer of the commuted value to a prescribed retirement savings arrangement (such as a locked-in RRSP), or the purchase of a deferred annuity. Clearly the purpose of these provisions is to promote pension portability and to increase the likelihood that mobile workers will receive adequate pension income. By transferring the commuted value to an RRSP the employee can ensure that his savings receive the higher investment returns associated with inflation. His savings are substantially inflation-protected.

With respect to the transfer to a retirement savings vehicle, another issue is one of consistency. With this option, the 'money purchase' element in the system of employment pension plans will increase. This will especially be the case with small benefit amounts which have accrued as a result of shorter vesting periods. It is unlikely such small amounts will be left in the plan if an option to remove them is allowed, and yet the amount may be too small or the employee too young to consider the annuity option. Consequently, any reluctance on the part of new employers to accept the monies into their pension funds will necessarily force an increase in the reversion to the RRSP option. The issue therefore becomes one of consistency when one considers whether money-purchase vehicles like RRSPs should come under the same inflation protection requirements as other plans. We canvass this issue in Chapter 12. There may be a further incentive to switch to RRSPs: part of the recently announced tax reform package was a Pension Adjustment Reversal calculation (PAR), to be used when an employee leaves and takes out an RRSP. This PAR can be used to create additional RRSP contribution room. This may be a disincentive to the creation of deferred vested benefits. A complete discussion of this point is undertaken by Nicholas Simmons in Volume 1 of the Research Studies.

Inflation protection for deferreds weakens the case for providing, in the first instance, the portability options contained in S. 43. The options are present in the legislation because deferred pensions are rarely updated by employers to compensate for the effects of inflation. Consequently, allowing an employee the freedom to reinvest the pension benefits might partially offset the erosive effects of inflation. With inflation protection, the real value of deferred pensions will likely be better protected in the pre-retirement period. As we saw earlier, the accrued benefits will have increased substantially, allowing mobile employees to reach retirement age with better entitlements than previously. Thus, the case for the portability options has been weakened. Moreover, complications arising from payouts where a plan is less than fully funded, a situation now governed by subs. 43(2) of the Act, suggest that the portability options may be less attractive if retention of the funds by the original sponsor provides adequate protection.

Maintaining the portability provisions, however, might be useful in allowing choice to those who feel their benefits will increase more rapidly in a private pension savings vehicle than with automatic escalations according to a, say, (75% of CPI) -1% formula.

If the portability section in the Act remains, the transfer option (to another plan, where agreed to) remains unaffected, though the commuted value of a pension will now be higher. At present the recommendations of the Canadian Institute of Actuaries for the computation of minimum transfer values take into account automatic inflation protection provisions but not ad hoc practices. This causes problems when an employee with an indexed pension terminates and later joins a plan which is not indexed. Assuming all future plans are indexed to the same degree, no consideration of future inflation need be taken into account, since the new plan sponsor will be required to index by the same formula as the old sponsor would have. To the degree that formulas may vary, actuaries will need to develop new 'Transfer Values' reflecting such differences.

As mentioned above, the RRSP option will be unaffected by inflation protection, because by its very nature it can protect against pre-retirement inflation through an investment strategy, though consistency might require some type of indexation. Similarly, one might have to recognize that the third option, deferred life annuities, might have to be adjusted to provide at least the same minimal degree of pre-retirement inflation protection prescribed by the legislation. At present, indexing of deferred annuities is rare. Two Ontario plans that have indexed benefits are the Public Service Superannuation Act and the Ontario Teachers Superannuation Act, which provide pre- and post-retirement CPI adjustments. Consequently, an indexing requirement on the part of the plan sponsor would place the plan sponsor in the same position as if the sponsor had to retain the accrued benefits in the fund and escalate them accordingly.

V CONSIDERATIONS IN CHOOSING A FORMULA

If one accepts the need for inflation protection for deferred benefits, a number of considerations affect the choice of formula or formulas to index the benefit.

It seems reasonable that once the terminating employee reaches retirement age, the benefit should be escalated in the same manner as are the benefits of other retired workers. That is, all post-retirement indexing should be the same. Considerations of adequacy, tilt, cost, and so on are all equally applicable to deferreds who join the ranks of retireds in the post-retirement period.

The formula chosen to escalate pre-retirement benefits is somewhat more complex. There is an argument, attractive for the sake of simplicity, that deferred benefits be escalated by the same formula before and after retirement. This solution will answer many of the concerns that have been the subject of this chapter. However, other concerns merit some attention.

While pre-retirement indexation of deferred benefits to prices can in principle afford the terminating employee larger increases than active plan members will receive, the reverse is most likely to be the case, because in the long run the average industrial wage has risen by more than the consumer price index, as have other income indices. Sponsors of final average plans, where benefits are tied to earnings, may find that earnings, and hence benefits, will rise by more than the consumer price index. Actives in flat benefit and career average plans may have the ability to negotiate increases in pension benefit levels and/or in plan formulas that match or exceed the rate of inflation, and these increases may not be extended to deferreds. Hence, for deferred benefits, any formula providing less than 100% inflation protection will likely leave vested deferred benefits at a lower level at retirement than the benefit levels received, in most cases, by those who stay with the same employer.

Several solutions have been advanced to this problem. One could tie pre-retirement increases in deferred benefits to benefit increases gained by active members of the actual plan. This would ensure that plan sponsors treat actives and deferreds in the same manner, despite the lack of bargaining power on the part of deferreds. Benefit updates in career average and flat benefit plans would be paralleled in deferred benefits. However, in final average plans, where benefits accrue according to a set formula, benefits are rarely updated. Consequently, this linkage method would not be appropriate to final average plans, unless one could somehow apply the same formula to deferreds, allowing benefits to move ahead with future wage increases. Such an option is simplified if a deferred's benefit remains in the pension plan but becomes complicated if the former member has joined another plan. Conversely, one could continuously index the benefits of active plan members according to the same formula as deferreds. This might, however, prove to be too great an intrusion into the collective bargaining process on behalf of the group most capable of protecting itself.

Some of the considerations used in choosing a formula for retireds may not be as applicable to deferreds. For example, we have seen the arguments that some planned decline in real value, or 'tilt', is a useful component in a formula to compensate for the decreased 'needs' of pensioners as they get older, and to force them, along with others in society, to bear some portion of the effects of inflation. As discussed in Chapter 6, we do not accept these arguments. However, even if they were accepted as valid, it should be noted that since a deferred is not yet at the age where his or her needs would be declining, such a tilt might be inappropriate. Related to this is the fact that, for deferred benefits, any formula providing less than 100% inflation protection will result in a continual deterioration in the real value of the promised benefits throughout the entire period from termination until retirement. It may be argued that any significant deterioration in the real value of the promised benefits prior to retirement is unfair, and consequently that very substantial inflation protection is appropriate for vested deferred benefits during that period.

Professor Pesando has argued that to a retired individual a formula such as (100% of CPI) -$2^1/_2$%, which tells the employee precisely what the real decline in his or her pension will be year after year, is preferable to a formula such as 60% of CPI, which in fact might provide a lesser, though more unpredictable, decline. In the case of deferreds, however, the long pre- and post-retirement periods might cause the annual $2^1/_2$% decrease in real value to seriously erode the pension benefit. Consequently, a deferred may be better off with a formula that more effectively protects the real value of the deferred benefit even if it is less certain.

Finally, one might stress the importance of the length of time a formula will operate on a pre-retirement benefit. The escalation period is potentially longer, and therefore the decline in real value allowed by any partial indexation formula would be more marked than it would be in post-retirement years.

VI COSTS OF ADMINISTRATION

In deciding upon the issues raised in this chapter, an important concern should be the costs of administration -- both for plan sponsors and for government supervisors. The new rules dealing with vesting, 50% employer contributions, and options for deferreds will complicate administrative procedures, as will the interaction of each with the provisions for inflation protection. Of particular concern are situations where a plan sponsor must deal with many small deferred pensions where escalation could have different formulas for pre-retirement and post-retirement. Of course, this complexity would also face an employee who changed jobs frequently and acquired many small deferred benefits.

Administrative techniques that could ease the cost of compliance and supervision should be explored. From the perspective of both employees and plan sponsors, for example, a government register for deferreds could keep track of current addresses and amounts owed. From such a register, both employees and plan sponsors could receive information relating to all the benefits with which they are concerned. In addition, it would ease the burden of administration if the plan sponsor could require that deferred pensions be taken out as RRSPs. An employee with a relatively long period of time worked before termination, perhaps ten years, however, should not be forced to withdraw his or her deferred pension from the plan. A person who would receive an annual pension of, say, about 10 per cent of the Average Industrial Wage would seem to fit into this category and should be entitled to remain in the plan, with inflation protection.

VII CONCLUSION

In spite of the newly introduced transfer options, not every deferred will have the foresight to take advantage of them. Thus some degree of inflation protection would seem desirable for those who leave their funds in the plan.

NOTES

1. See Actuarial Consultants of Canada Limited, second submission to the Ontario Task Force on Inflation Protection For Employment Pension Plans, July 6, 1987.

2. See the background study by James E. Pesando in Volume 1 of the Research Studies entitled 'Assessment of Alternative Formulas for Delivering Inflation Protection'.

3. Ibid.

CHAPTER 11

The Retired and Retroactivity

I THE MEANING OF 'RETROACTIVITY'

Prospective inflation protection means that, as of the date of the legislation, benefits accruing in connection with future work will be increased, after retirement, in accordance with the inflation protection formula. In contrast, retroactive inflation protection (sometimes also called 'retrospective' inflation protection) can have different meanings.

Retroactivity can mean that, as of the date of the legislation, all pensions currently being received will henceforth be given inflation protection. For active workers, inflation protection will begin at the retirement date and cover all pension credits received at that date.

Further, what we call 'catch-up retroactivity' would increase each pension being received as of the date of the legislation to the level it would have been if inflation protection had been in place throughout the employee's retirement.

To illustrate these alternative degrees of retroactivity, consider two people, a retired person receiving a pension of $100 per month and an active worker five years prior to expected retirement.

With prospective inflation protection, the retired person will not receive any increases as a result of the legislation. The active employee will receive inflation protection in retirement only on those pension credits earned in connection with the next five years of work. That portion of pension to be received for work prior to the date of legislation will not receive inflation protection under the legislation. (Of course, pension increases may be given on a discretionary or contractual basis.)

With the first type of retroactivity discussed above, the retired person henceforth will receive inflation protection on all future pension payments. Active employees and deferreds will, upon retirement, receive inflation protection on all pension payments from that point onwards. As of the date of the legislation, the retiree will receive periodic increases dependent upon the inflation protection formula. If inflation is 5 per cent over the first year and inflation protection is 100%, the pension will rise to $105 a month in the second year. For the active, during the five-year work period, pension promises may rise for a number of reasons such as contract negotiation or increases in income under a career average or final earnings plan. Such increases, if they occurred, would not be linked to, or be determined by, the legislated inflation protection formula. On retirement in five years, this employee will receive, say, $200 per month. At that point inflation protection begins. If inflation in the first year of retirement is 5 per cent and inflation protection is 100%, then at the end of the first year the pension would be increased to $210 per month.

With 'catch-up' inflation protection, the active employee would be treated in the same manner, but the retiree would be treated more generously than with the first approach. Here, the retiree will receive a special one-time increase, on the date of the legislation, to bring the amount of pension up to the level it would have reached if inflation protection had been in effect over the entire retirement period. To illustrate, suppose that the pensioner had retired ten years earlier and that cumulative inflation since then had totalled 65 per cent (about 5 per cent per annum, compounded annually). As of the date of legislation, if inflation protection were 100%, the pension would rise from $100 per month to $165 per month. After this one-time increase, the pension would increase each year in accordance with the inflation protection formula.

It is clear from the above examples and from the cost studies in Chapter 8 and Volume 4 that the degree of retroactivity in the legislation is extremely important, quite apart from the actual formula adopted. Without changing the assumed inflation protection formula, the potential costs of inflation protection vary tremendously depending upon whether the legislation applies retroactively and, if so, to what degree.

II WHO BEARS THE COST OF MANDATORY INFLATION PROTECTION?

We have seen that the costs and benefits of mandatory inflation protection are highly sensitive to the degree of retroactivity prescribed. The latter also affects who actually pays these costs.

If the legislation is purely prospective (i.e. applies only to benefits earned in the future), economic theory suggests that in some cases employers might be able to shift some or all of these costs onto active workers. Pensions are but one element of the overall compensation package offered by employers.[1] If legislation requires inflation-protected pensions, employers will attempt to grant lower wage increases than they otherwise would have given. Employers will be successful in doing this to a greater or lesser extent depending upon such factors as the extent of unionization in their labour force and the degree to which prices can be increased. Generally, therefore, the prospective component of mandatory inflation protection will probably be 'paid for' -- at least in part -- by active employees. The extent to which this occurs will vary from industry to industry.

In contrast, the cost of the retroactive component of any mandatory inflation protection initiative is less likely than the prospective component to be shifted onto labour. To the extent that escalation of benefits of retired workers is required, it would be difficult to convince active workers that they should accept a wage concession. An employer who tries to extract such a concession would probably meet severe resistance. Therefore, unless product prices can be increased, the corporation itself must absorb a large part of the cost of any retroactive element. According to Professor Pesando:[2]

> If enrichments are imposed by legislation and apply to past service, then the costs will be borne by the shareholders of the firm. If a benefit is due the worker regardless of whether he remains with the firm, which would be the case with retroactive enrichments imposed by legislation, then the firm will be able to extract no wage concessions in return for the enrichment. If the firm sought to do so, the worker would have an incentive to quit and find employment at a different firm which would pay him total compensation equal to the current value of his labour services.

In general, therefore, retroactive inflation protection is likely to transfer wealth from shareholders to active employees and retirees.

III THE ADVANTAGES AND DISADVANTAGES OF RETROACTIVITY

Perhaps the strongest argument in favour of a retroactive initiative is that a purely prospective provision would do nothing to help current retirees. As stated by the United Steelworkers of America in their submission to the Task Force: 'If inflation protection is not applied to past service and to pensions in pay, it will be a generation before the benefits of mandatory indexing are felt by any retirees.' There is, of course, some understandable attractiveness to a provision which confers benefits on retirees immediately.

The argument might even be stronger. If the provision is purely prospective, current pensioners might get less than they are now receiving, because sponsors might decide to stop granting ad hoc adjustments. This might occur both because of the increased cost associated with the funding and expensing of the prospective benefits and because the mandated formula might be higher than the ad hoc adjustments. Inflation-induced pension fund earnings might, therefore, be re-directed from adjustments for current pensioners towards future (mandatory) inflation protection. Thus there is a need to find a way to encourage the continuation of present ad hoc practices if a prospective-only provision is adopted. The potential ways of providing such an incentive are discussed in section IV below.

An additional advantage of retroactivity is that it would to some degree redress any inequitable inflationary redistribution of income. As noted in Chapter 2, employers and active workers in defined benefit plans have generally been made better off by inflation, just as retirees were made worse off. A retroactive initiative would redress this undesirable transfer of resources, since it would transfer wealth back from sponsors, and to some extent from active workers, towards current pensioners.

There are, however, many potential objections to retroactivity. It is uncommon for legislation to be retroactive. Indeed, almost all of the recent amendments to Ontario's pension legislation (eg. the 50% rule and the vesting period but not the spousal option) apply prospectively only. There is thus a general predisposition in favour of prospective legislation.

Retroactivity is tantamount to changing the rules of the game in midstream. Individuals bargain and enter into contracts in light of the existing legislative framework. If the government retroactively alters this framework, individuals may become reluctant to rely on prevailing rules. In the context of employment pensions, one submission received by the Task Force made this point quite cogently: 'Sponsors of defined benefit plans established those plans based on both their economic circumstances and the legislative environment at the time. To make a mid-stream change in the rules would leave the sponsor bereft of any remedy.'[3] In effect, many argue, even if inflationary income redistribution is inequitable, the fair way to remedy the problem is to ensure that it does not recur in the future.

The cost impact of retroactivity varies considerably from one firm to another. Inflation-induced pension fund earnings have often been used voluntarily by employers to 'upgrade' benefits, for example, by providing early retirement options or simply by improving the benefit formula. Unless explicit account is taken of such upgrades, retroactive inflation protection would be unfair to employers who had already given the benefits of inflation-induced earnings in some other form.

Furthermore, firms without employment pension plans suffer no losses, while firms which have established plans are losers. Any company contemplating the establishment of a defined benefit pension plan in the future is likely to be wary of the potential for costly future government initiatives. If potential sponsors cannot be sure that the prevailing rules will continue, they may be reluctant to establish plans.

Particularly hard hit would be firms with a more mature work force and a large number of retirees. Generally, the significance of any inflation protection of past service benefits depends upon the extent of accrued credits accumulated by plan members. Sponsors who established plans several decades ago would thus face much greater losses than would sponsors who implemented pension plans very recently. It seems arbitrary and inequitable for companies which were originally at the forefront of employment pension plan coverage to be penalized relatively severely. The costs of retroactivity would also be higher in the more generous plans. This too seems unfair. In some markets, retroactivity would only affect long-established firms, thereby giving a competitive advantage to new entrants who have not established pension plans and foreign competitors who are not subject to Ontario legislation. For example, retroactivity would be costly to large established automobile manufacturers but might cost newer manufacturers nothing.

From a more practical point of view, retroactivity may pose administrative problems. In some cases, the employer may have gone out of business, either voluntarily or through bankruptcy, and the employer's assets may have been disbursed to creditors. In some cases the employer may still exist but may have purchased annuities from a life insurance company. Who will pay for the mandated inflation protection in such situations? Will employees simply be 'unlucky' and receive no retroactive inflation protection?

A guarantee fund could be established to pay for the retroactive inflation protection of pensions in plans that have been wound up and whose sponsors no longer exist. The rationale of such a fund would be that it is considered inequitable for those unlucky enough to be members of closed plans with insolvent sponsors to suffer relative to others. Thus, the argument would say, the cost of avoiding such inequity should be spread throughout society. This line of argument would suggest that such a separate guarantee fund be financed out of Consolidated Revenues. However, the latter is probably an unacceptable solution for a number of reasons. In particular, it is arguably unfair to use tax dollars to benefit those who are members of employment pension plans when most Ontarians do not belong to such plans. Thus, the guarantee fund is not an appropriate solution unless it is financed by current sponsors of pension plans. In such a case the proposal collapses into a proposal to expand the current Pension Benefits Guarantee Fund to cover such cases.

Our main concern is unfairness, particularly with regard to the extremely severe impact of retroactivity on sponsors who established plans long ago. However, if a purely prospective provision is implemented, sponsors must be encouraged in some way to continue making ad hoc adjustments to the pensions of present retirees.

IV INCENTIVES FOR VOLUNTARY INFLATION PROTECTION ADJUSTMENTS BY SPONSORS

If the government imposes mandatory inflation protection for future service benefits only, there is a danger that the costs of funding this future inflation protection will be borne by present retirees. Indeed, sponsors might find it easier from a labour relations point of view to cancel future ad hoc adjustments than to demand a wage concession from active employees. In effect, the inflation-induced earnings of contributions made on behalf of current retirees would be transferred to active employees to fund the active's future indexation. Since the payment of these earnings to present pensioners was previously made on a voluntary basis, it would appear to be difficult to prevent the cancellation of future voluntary adjustments. On the other hand, the Task Force could advocate a device which would either 'reward' sponsors who do make cost-of-living adjustments to present retirees or 'penalize' sponsors who do not meet some minimum standard for indexation of pensions currently in payment.

How might a 'reward' mechanism work? One possibility would be to have an alternative, less onerous, formula for employers who provide some retroactive protection. For example, if the Task Force were to recommend a prospective formula of (75% of CPI) -1% (the formula in the federal legislation), sponsors who index all pensions being paid to at least, say, (75% of CPI) -3% might be permitted to continue to index prospectively to the latter formula for a period of time. The prospective formula would thus be less onerous than that applying to sponsors who choose only to index prospectively. Over time, this 'less onerous' formula could be made gradually more stringent, so that, after a number of years, perhaps fifteen, indexation at the standard rate of (75% of CPI) -1% would be required. By then, there will be many pensioners who earned large portions of their pension credits after the effective date of the legislation. In the interim period, however, sponsors who had introduced inflation protection retroactively will have been rewarded with a less onerous minimum formula for prospective inflation protection. Another possibility would be to have the more favourable formula (if the sponsor made it retroactive) remain as the minimum standard and not become more onerous over the years.

A further alternative reward might be relaxed funding requirements. For example, employers meeting a minimal compliance standard for retroactive indexation could be permitted to amortize the unfunded liabilities associated with prospective inflation protection over, say, 25 years instead of the usual 15 years. Another possibility would be to adopt 'pay-as-you-go' funding for both prospective and retroactive inflation protection. Such relaxed funding would lessen the immediate cost impact of inflation protection.

A further possibility is to provide a cap on prospective inflation protection only if retroactivity is introduced.

Finally, a particularly important incentive to retroactivity, discussed in Chapter 13, is to link employers' access to surplus to retroactive inflation adjustments.

To summarize: if mandatory inflation protection applies only to pension benefits earned in the future, it would be desirable to have some mechanism to encourage employers to provide some inflation protection of pensions being paid. Otherwise, as we have stressed, present retirees might actually be harmed by inflation protection, if previously contemplated ad hoc increases are cancelled.

V PROCEDURES FOR PHASING IN RETROACTIVE INFLATION PROTECTION

If some form of retroactivity were to be implemented, the legislation could alter the inflation protection formula as the years pass. The formula could be less generous initially but could become more so in accordance with a predetermined time profile. In considering a time profile for introducing the inflation protection formula, substantial scope exists for a variety of solutions. Widespread and longstanding practices of ad hoc adjustments by sponsors frequently provide percentage increases of 20% to 40% of actual CPI increases. This leads to the suggestion of an initial formula floor for both prospective and retrospective increases of at least that level.

The choice of time period for phase-in is another issue to be decided. The choice of ten years is perhaps reasonable, although five years or fifteen years could also be advocated. Having chosen the initial formula level, the ultimate formula level and the time period for phase-in, it is also necessary to decide whether adjustments in the formula level should be made every year. To simplify the calculations, one might argue for only one or two transition steps. That is, within a ten-year phase-in, one might choose to raise the initial formula level only once or twice. This perspective is presented in the following table for illustrative purposes only.

Sample Time Profile for Implementation of Inflation Protection

	Option 1	Option 2	Option 3
Years 1-5	25% of CPI	(75% of CPI) -3%	(100% of CPI) -4.5%
Years 5-10	40% of CPI	(75% of CPI) -2%	(100% of CPI) -3.5%
Years 10 onwards	60% of CPI	(75% of CPI) -1%	(100% of CPI) -2.5%

Another feature of the inflation protection formula that could be phased in is a cap. In the initial years, a low cap could be placed on the inflation protection adjustments, and this cap could be raised gradually.

A further technique worth exploring is to start inflation protection at a greater age after retirement than the normal retirement age and then to reduce this commencement age over a period of years.

As emphasized throughout this report, pensions are only one part of the overall terms and conditions of employment. A phase-in of inflation protection for pensions would permit employers, employees, and shareholders to adjust gradually to the new requirements. It might be in the best interests of all concerned to institute changes in other parts of the terms and conditions of employment, and these could require time. If some form of retroactivity were part of the ultimate inflation protection arrangements, then shareholders -- who may bear much of the burden of retroactivity -- would not receive as severe a financial blow as if the retroactivity were fully imposed immediately. Time for adjustment to the new rules may be particularly important in the context of the rapid changes that are currently occurring in other aspects of the business environment, such as new international trade arrangements, as well as in the context of rapid changes in other pension regulations which will impose additional business costs as well.

In determining the phase-in procedures, considerable scope exists for choice among a wide variety of combinations of the elements discussed above: the initial starting formula, the total transition period, the number and timing of adjustments to the formula, the age at which inflation protection begins, and the changes in the cap or the maximum annual inflation protection. Techniques therefore exist for easing some of the impact of retroactivity. The important question, however, is whether mandated retroactivity is desirable.

Chapter 11: The Retired and Retroactivity

NOTES

1. Morley Gunderson, Labour Market Economics: Theory, Evidence and Policy in Canada (1980), Toronto: McGraw-Hill, at p. 204. See also Richard A. Ippolito, Pensions, Economics and Public Policy (1986), Pension Research Council, at p. 133.

2. James E. Pesando, 'An Economic Analysis of the Green Paper Proposals for the Reform of Employer-Sponsored Plans' (1984), Toronto: Ontario Economic Council, p. 138, at p. 140.

3. Towers, Perrin, Forster and Crosby, submission to the Task Force on Inflation Protection for Employment Pension Plans, May, 1987.

CHAPTER 12

Special Situations

In this chapter we examine possible special cases in the application of mandatory inflation protection to pension plans and other retirement savings arrangements. Many submissions to the Task Force have suggested special treatment or even exemptions for some of these cases. We analyse the advantages and disadvantages of making special provisions for these various arrangements.

I MONEY PURCHASE PLANS

In a money purchase (or defined contribution) plan, the contribution rates are defined in the pension agreement. The pension received by the retiree is determined by the amount of annuity which can be purchased with the accumulated amount of contributions at the time of retirement (hence the name 'money purchase' plan). As noted in Chapter 2, the money purchase arrangement puts all investment risk on the employee. In contrast with the defined benefit plan, the employer in a money purchase plan is not required to make contributions beyond those defined in the pension agreement. The amount of pension produced by a given level of contributions can vary considerably, depending upon both pre-retirement investment experience and the price of annuities at the time of retirement. The level of pension benefits therefore cannot be ascertained with certainty at any point in time before retirement.

Many submissions to the Task Force recommended that mandatory inflation protection apply to money purchase plans. However, because pension benefits in such plans remain undefined until the time of retirement, 'indexing' a money purchase plan can only mean imposing a requirement that an indexed annuity for a lower initial amount, rather than a level payment annuity, be purchased. Thus, the Task Force could recommend that all members of money purchase plans receive an annuity which is indexed at least to the extent of the prescribed formula.

In part, inflation protection of money purchase plans is desired by many people in order to offset the tendency to convert defined benefit plans to a money purchase format (see Chapter 2). Would such a requirement have any effect on the proclivity of sponsors to convert from defined benefit plans to money purchase plans? Probably not, since the cost to the employer is identical whether or not an escalating annuity is purchased. Employer costs are determined exclusively by the defined contribution levels. Whether accumulated contributions are used to purchase a level payment annuity or an indexed annuity is irrelevant to employer cost. Throughout this discussion, we assume that any indexation of money purchase plans, either prospective or retroactive, will impose no additional costs on employers. Indeed, presentations to the Task Force did not argue otherwise.

On the other hand, an employer who wanted to convert to a money purchase plan might find less employee resistance if an unindexed annuity could be purchased, because individual employees seem to prefer a higher starting pension to a lower starting pension with indexation. Indexed annuities linked to the CPI[1] or Treasury Bill yields[2] have recently been made available in Canada. Yet, to date there has been little interest in them. Many would ask why the government should require individuals to purchase indexed annuities when actual behaviour suggests that they prefer level payment annuities. To require indexing of money purchase plans, they argue, would be pure paternalism. Indeed, individuals in money purchase plans may well be aware of the effects of inflation, and may have increased their savings or retained an owner-occupied home to offset those effects. Moreover, people with small, inadequate pensions or in poor health with a short life expectancy will feel that it is unfair to impose a requirement of an increasing annuity.

There are several responses to the 'paternalism' argument. If individuals underestimate their life expectancies or the effects of inflation, their preference for level payment annuities is founded on misinformation. There is evidence that individuals do indeed tend to underestimate their life expectancy at the time of retirement. In addition, retirees (or for that matter anyone else) cannot predict future inflation. Thus, the argument goes, it is better for retirees to receive a pension whose purchasing power will not be substantially eroded if they live longer, or if inflation turns out to be higher, than they expected. Professor Pesando has suggested that legislated mandatory inflation protection in general is premised on the view that workers either have less than 'full' information or 'have not discounted appropriately the eroding impact of anticipated inflation on their nominal pension benefits'.[3] In addition, there is some attractiveness to uniformity. If retirees in money purchase plans receive unindexed annuities, while those in defined benefit plans receive inflation-protected pensions, there may be a sense of inequity. Moreover, 'paternalistic' measures may be justified to the extent that they prevent pensioners from becoming a burden on the state. If individuals systematically underestimate inflation or their life expectancy, taxpayers will have to care for indigent pensioners. Indexed annuities would help prevent this problem.

Finally, indexed annuities are a novel product in Canada, and like many new products they seem expensive. As competition increases, their price will probably fall. To obtain full indexation, an individual currently must accept substantially lower payments than with a level payment annuity in the early years after retirement. A $1,000 per month pension, unindexed, is usually more acceptable to prospective purchasers than a $650 per month pension, fully indexed, and this is about the tradeoff involved in indexed annuities offered to date in Canada. On the other hand, if the government were to require less than full inflation protection for money purchase plans, the initial payments for an 'indexed' annuity would be somewhat larger. Furthermore, requiring the purchase of indexed annuities in money purchase plans would undoubtedly result in increased competition among suppliers of indexed annuities.

The major objection to requiring inflation protection of money purchase pensions is that the concern about inflationary income redistribution highlighted in Chapter 2 is not applicable to money purchase plans. In defined benefit plans, the higher the inflation rate, the worse off is the defined benefit retiree, and the better off are the plan sponsor and/or active workers (eg. if plan enrichments are made). With a money purchase plan, however, unanticipated inflation -- that is, inflation higher than borrowers and lenders had anticipated when interest rates were set -- causes a very different kind of redistribution. It causes wealth to be transferred from savers (employees and retirees) to borrowers (issuers of unindexed securities.) Although this redistribution is no more desirable than the previous one, requiring inflation protection of money purchase pensions would do nothing to eliminate the transfer of wealth from savers to borrowers when inflation takes place. Therefore, to the extent that inflationary income redistribution is the major rationale for mandatory inflation protection, there is a case for exempting money purchase plans.

Another difficulty, as we shall see, is that any rules affecting money purchase plans could effectively be circumvented by setting up a group RRSP arrangement, in which employers make contributions which are locked in until retirement. Such arrangements strongly resemble money purchase plans, but they are at present not covered by the Ontario Pension Benefits Act, 1987.

A possible compromise would be to require the plan sponsor to make available as an option to retirees in money purchase plans an annuity indexed at least to the extent of the prescribed formula. The normal pension could be an indexed annuity, with the retiree being permitted to opt for a level payment annuity (with higher initial payments). Alternatively, the indexed annuity could be the option, with the level payment annuity being normally offered. Such a solution would avoid paternalism, while still responding to both the desire for uniformity and the need for some government initiative in the face of retiree misperceptions.

II RRSPs

Currently, the rules regarding RRSPs are those contained in the federal Income Tax Act and Regulations. However, some RRSP arrangements strongly resemble money purchase plans, though they are not subject to the Pension Benefits Act of Ontario. In particular, some group RRSPs involve employer-sponsored contributions by employees. In some cases, the funds are locked in until retirement. If the government requires the purchase of indexed annuities in money purchase plans, logical consistency might call for a similar requirement at least for those group RRSPs which look very much like money purchase plans. Otherwise, employers and employees might simply convert their money purchase pension plan into a group RRSP, thereby rendering ineffective the indexation requirement on money purchase plans.

Although some group RRSP arrangements are substantially identical to money purchase pension plans, the Pension Benefits Act, 1987 does not currently apply to group RRSPs: the definition of 'pension plan' in Section 1 of the Act does not encompass group RRSPs. Thus, the only rules that would appear to bind group RRSPs are the federal tax rules. The situation parallels the pre-1965 regime in Ontario, before the introduction of pension benefits legislation, when pension plans were regulated only by the federal tax authorities. If pension benefits legislation is to be effective, it should probably apply to all retirement savings arrangements which are in substance very similar to employment pension plans. If a group RRSP is set up in which employers directly contribute some amount on behalf of employees, there is no logical reason to exclude this arrangement from the minimum standards in the pension benefits legislation. To exempt such arrangements from registration, minimum vesting periods, portability requirements, and inflation protection is to allow form to mask substance. Moreover, employers who want to set up a pension plan, but who also want to avoid the regulatory scrutiny of the Pension Commission, might simply opt for an arrangement which is called a group RRSP but looks very much like a money purchase pension plan. D.S. Rudd, an actuarial consultant and the Director of the Canadian Centre for Pensions and Retirement Studies, recently wrote about the likely trend towards group RRSPs:

> The safest and easiest method out is a group RRSP by payroll deduction. The group RRSP is really a collectivity of individual RRSP accounts with the employer providing the administration, usually at no cost to his employees, and using a carrier for administration, such as a life insurance company or a trust company. The employer contribution is a taxable benefit, but deductible by both the employer and employee. It may attract some further CPP and UI contributions and costs on lower paid employees, but in the long or short run this could well be a benefit.
>
> By the nature of the RRSP, employer contributions are immediately vested, but eligibility conditions are completely under the employer's control, as is the amount of employer contribution which can reward service as well as earnings without the possible interference of regulatory bodies. Membership in the plan can be a condition of employment as is often the case with the pension plan, or be voluntary, but with no right of withdrawal of funds while remaining in employment.

> From the employee's point of view, there are no restrictions on termination of employment or retirement. His value can be taken in (taxable) cash or transferred to a personal RRSP until actual retirement when commutable RRIFs and annuities certain are further options in addition to the life annuity.[4]

Serious consideration, therefore, ought to be given to broadening the scope of pension benefits legislation to include any arrangement which is in substance identical to a pension plan. Ontario would seem to have the constitutional authority to regulate group RRSPs, just as Ontario already has authority to regulate pensions, though there are also tax rules that apply to pensions. Professor Peter Hogg provided us with an opinion on the constitutionality of provincial legislation regarding RRSPs. He states, in part:

> The province has the authority to regulate any contract or trust established in the province under which an issuer undertakes to provide retirement benefits of some kind. The province could require, for example, that the benefits be indexed to inflation. The province's authority extends to 'registered retirement savings plans' which attract special treatment under the federal Income Tax Act. From a constitutional standpoint, the provisions of the federal Income Tax Act are irrelevant to the province's power to regulate retirement savings plans ...
>
> Could Ontario's law be avoided by the establishment of a plan in another province? In general, the answer to that question is yes. By the express terms of S. 92(13), provincial authority extends only to 'property and civil rights in the province'. Ontario cannot make its law effective in another province. However, Ontario does have authority over persons (corporations and individuals) that reside in the province, or do business in the province, or form employer-employee relationships in the province. By fastening a scheme of regulation upon persons or contracts of employment in the province, Ontario may be able to make its law effective.[5]

Whatever requirement there was for indexing money purchase plans should also apply to company-sponsored RRSPs. It should also apply to the locked-in RRSPs which have been set up or augmented by deferreds who have chosen the option upon termination. Should this include individual RRSPs? The rationale for doing so would be that all RRSPs are really pension plans of sorts, since they are all savings accounts which are set up to provide retirement income. Thus, the argument goes, if the proceeds of money purchase plans must be converted to an indexed annuity (assuming this were required), there should be a similar requirement for RRSPs. There are a number of problems with this argument, however. Most important, the presumption that all RRSPs are really like pension plans is probably inaccurate. In fact, many self-administered RRSP accounts are viewed as a way of minimizing or deferring income taxes and not solely as a way of accumulating retirement funds. In many cases, RRSPs complement employment pensions, rather than being substitutes. Moreover, RRSPs are most popular among higher-income individuals. These persons can probably take care of their own retirement needs without any government directive requiring them to purchase an escalating annuity.

Another more practical difficulty is that funds in such plans could simply be invested extra-provincially. Thus, if the government mandated the conversion of all RRSP funds invested in Ontario into indexed annuities, individuals or groups could simply direct their RRSP funds towards savings vehicles based in other provinces.

An alternative method of regulating all RRSPs might be to impose a provincial surtax on RRSP withdrawals that are not converted to indexed annuities. Such a proposal would simply provide an incentive to purchase indexed annuities, rather than requiring such purchases. Senior officials in the Ontario Ministry of Treasury and Economics believe that because of the Tax Collection Agreement such a surtax could not be imposed without the consent of the federal government.[6]

To summarize: some group RRSP arrangements appear to be substantially identical to money purchase plans. There is a good argument in favour of amending the scope of the Pension Benefits Act, 1987 to include these employer-sponsored group RRSPs, possibly exempting the very small group plans (say under 15 members). If money purchase plans must have inflation protection, so should group RRSP arrangements, which are substantially the same. Even if there is no inflation protection requirement for money purchase plans, group RRSPs that look identical to money purchase plans should be subject to rules regarding registration, vesting, portability, and so on. Although this is not within our explicit terms of reference, we believe that serious consideration should be given to this issue. To leave group RRSPs unregulated is to invite existing plan sponsors to move from highly regulated defined benefit plans to group RRSPs and for new plan sponsors to set up group RRSPs instead of defined benefit plans.

The argument for regulating self-administered RRSPs is much weaker. In some cases these are viewed as a means of tax deferral rather than as a pension plan. Individual freedom to choose the form of annuity from an individual RRSP should probably be preserved, whatever is required for money-purchase plans.

III MULTI-EMPLOYER PENSION PLANS (MEPPs)

As indicated in Chapter 2, most private sector MEPPs have some of the characteristics of money purchase plans, although in other ways they resemble defined benefit plans. In a MEPP, the employer's obligation is to contribute a defined amount, usually specified in a collective agreement. A board of trustees (which usually includes representatives of both employees and employers) then aims at a stated defined benefit level, which is not guaranteed. Adverse investment experience might result in benefit reductions, although this is unlikely to occur because the defined benefit is usually conservatively estimated. On the other hand, good investment experience never operates directly to reduce employer contributions.

The Task Force received some submissions from MEPPs which advocated exempting them from mandatory inflation protection, while other union submissions expressed opposition to any such exemption.

The case for an exemption relates to the absence of inflationary income redistribution in MEPPs. As noted in Chapter 2, inflation lowers the cost of providing a given defined level of benefits. In employer-sponsored defined benefit plans, these 'savings' might be used by the employer to reduce pension plan costs by lowering employer contributions. In a MEPP, however, employer contributions are fixed by collective bargaining and cannot be varied according to investment returns. If surplus funds accumulate (beyond what is required to fund target benefit levels with normal actuarial 'cushions'), the trustees are under a legal obligation to use such funds for the benefit of the trust beneficiaries (i.e. current and future retirees). Thus, there is no redistribution in favour of employers when general prices rise. Inflationary gains must be used for the benefit of the beneficiaries.

It is argued that exempting MEPPs from mandatory inflation protection is in the best interests of members of MEPPs. Over the past five years, benefit increases for pensioners have outpaced inflation in many MEPPs. These increases were neither pre-committed nor prefunded but rather were granted by plan trustees on the basis of superior investment performance. If inflation protection according to a prescribed formula were made mandatory, prudent trustees might have to prefund future increases. Furthermore, it is argued, because of uncertainty about future inflation, trustees might be less inclined to increase benefits. Perhaps most important, trustees might tend to invest MEPP funds more conservatively (to hedge inflation risk), thereby achieving lower long-run investment returns. With lower returns, prospective benefit improvements would be correspondingly reduced.

Those advocating an exemption also note that mandatory inflation protection would reduce the flexibility of MEPP trustees. For example, while surplus funds (above what target benefits require) could currently be used to reduce the retirement age with no penalty, mandatory inflation protection would inhibit such improvements by directing surplus earnings towards benefit escalation. Mandatory inflation protection would also constrain trustee flexibility to deal with particular industry-specific problems such as severe reductions in employment. If MEPPs were exempted from inflation protection, fund earnings could be directed towards easing such adjustments for affected employees -- for example, through enriched early retirement provisions -- rather than for general benefit increases. An exemption would tend to maintain the existing flexibility of trustees to deal with special situations.

A final argument favouring an exemption for MEPPs relates to the existing duties of trustees at common law. Trustees are required by law to act solely in the interest of plan beneficiaries, including current retirees, active employees, and terminated employees (deferreds). Thus, inflationary earnings, some argue, cannot be disproportionately appropriated by active workers. Nor can employers gain at the expense of retirees when inflation occurs. As a result, it is argued, inflation protection need not be made mandatory for MEPPs, since existing mechanisms ensure that retirees will benefit from inflationary earnings.

One problem with the pro-exemption argument relates to enforcement. If retirees believe that the trustees are in breach of their duty, they can, as a final resort, obtain a remedy only by suing the trustees for breach of trust. Costly and lengthy litigation would result. Moreover, it might be very difficult to establish that the trustees have acted in an arbitrary or discriminatory manner. The duty imposed by trust law does afford trustees considerable discretion to grant differential benefit increases to different groups, provided their actions can be reasonably justified.[7] Moreover, MEPPs are typically found in high-turnover industries, making it unlikely that retirees would band together in a class action. In practice, therefore, retirees are not likely to litigate even if they believe that the trustees have shortchanged them. Having a retiree on the board of trustees might reduce the risk of abuse.

An even more vexing problem is the potential treatment of deferreds. There is considerable scope for trustees to grant smaller increases to terminated employees. Unlike retirees, the plight of deferreds is not likely to concern employees or the employer. As discussed in Chapter 10, however, it is important from a public policy viewpoint that deferred pensions receive some inflation protection. For deferreds, the legal duty imposed by trust law may not be sufficient to achieve the objective of inflation protection. It is true, of course, that a terminated employee can now obtain pension contributions and deposit them in a locked-in RRSP, thereby to a considerable extent covering future inflation risks through investment earnings.

One advantage of generally applying mandatory inflation protection to MEPPs is certainty. Those advocating an exemption for MEPPs have referred to the large increases which have taken place in MEPP pensions over the past five years. However, these increases have really been granted at the discretion of the trustees. Pensioners have been unable to rely on such improvements before they have taken place. Legislated mandatory inflation protection would enhance the predictability of the pensions received by MEPP pensioners at the price of having a lower initial pension.

In addition, applying the legislation to MEPPs would achieve a certain degree of uniformity. Pensioners in MEPPs would at least appear to be receiving the same benefits from government-imposed mandatory inflation protection as would members of other plans. There is some political attractiveness to avoiding the appearance of singling out certain groups for favourable or unfavourable treatment.

Current benefit levels in MEPPs have been determined assuming no precommitted inflation protection. Thus, benefit levels might have to be reduced to allow for escalation. Even if legislated mandatory inflation protection applies only to prospective benefit accumulations, MEPPs could reduce the levels of benefits already earned. Section 14(2) of the Pension Benefits Act, 1987 exempts MEPPs from the general provision nullifying a plan amendment to reduce benefits retroactively. Thus, mandating inflation protection for MEPPs might result in lower benefit levels for benefits earned in the future and for benefits already earned. Unless employers can be convinced to increase contributions (beyond the increase that could have been obtained without the legislation), the members of MEPPs are likely to 'pay for' inflation protection with lower initial pensions.

The case for mandatory inflation protection appears stronger for MEPPs than for money purchase plans. Without some mandatory protection, retirees and deferreds might lose to the advantage of active workers when inflation takes place. While a statutorily enshrined legal duty might theoretically prevent this redistribution from taking place, it seems unlikely that retirees or deferreds would in fact obtain a remedy in the event of breach of that duty. On the other hand the case for mandatory inflation protection is weaker for MEPPs than for defined benefit plans. There is no scope in MEPPs for redistribution of wealth towards employers, since employer contributions are fixed by collective agreement. Moreover, there is an argument in favour of exempting MEPPs in light of their apparent record of increasing benefits with surplus earnings. However, the exemption argument is weakened if the prescribed inflation protection formula is not onerous.

IV UNION PLANS

Another possible special situation, perhaps justifying an exemption from inflation protection, pertains to plans which have arisen as a result of the collective bargaining process. These plans, it is argued, should be exempt from any mandatory inflation protection legislation on the ground that such legislation would deprive the bargaining parties of the full latitude to negotiate the individual elements of the total compensation package. This might, it is argued, 'drastically alter the balance of power in the negotiating relationship'.[8] Moreover, the sponsor's cost of future negotiated settlements might increase as employees continue to exert pressure for future increases along traditional lines for other nominal pension benefits, without any recognition on the employee's part of the additional costs and financial risks assumed by the sponsor in complying with the mandatory legislation. Such legislation would therefore be a windfall gain for employees. In short -- plan sponsors argue -- since unions represent (or should represent) their retired colleagues, all aspects of the compensation package should be left on the bargaining table, just like pension promises for active employees.

Others argue that a legislative solution to the absence of inflation protection is required. Unions, for practical reasons, are not always able to represent deferreds or retireds effectively at the bargaining table. For example, it would be difficult for a union to bargain on pension issues where the employee population is relatively young and not concerned about retirement issues. Moreover, even if unions could motivate their membership to the degree necessary to put pension issues on the bargaining table, they may encounter employer resistance. Because of this type of bargaining constraint, it is argued, governments must legislate minimum standards, as they have done in other areas of pension reform, in order to ensure some basic level of inflation protection.

In any event, pension plans subject to collective bargaining might be exempted from providing indexation until existing labour contracts have expired. This would force the costs of mandatory indexation to be allocated by the collective bargaining process in the subsequent round of negotiations. Inflation protection therefore would appear on the bargaining table alongside other benefits to be negotiated. The cost of the benefit would be distributed by either increasing employer contributions or decreasing employee benefits, or a combination of both. A legislative precedent for such a suggestion exists in Nova Scotia's Pension Benefits Act, 1987. Subsection 25(2) requires that inflation protection for deferreds and other reforms contained in the Bill be complied with when collective agreements expire, up to a maximum period of three years.

V GENEROUS PLANS

Between 1970 and 1984 the pension benefits in employment pension plans have been improved. In the first place, there has been a relative shift out of career average plans, particularly of the contributory type, into final or best average plans (see Chapter 2). This shift, as we have previously noted, improves the benefits base from which future benefits will be calculated and to some degree insulates the pensioner from pre-retirement inflation. Second, there is a marked trend towards an improvement both in unit benefit calculation formulas (eg. from 1% of final average earnings per year of service to 2%) and in the percentage of total compensation devoted to pension benefits.[9] As a result, some might argue that the more generous plans be exempt from mandatory inflation protection. Above certain benefit levels, inflation protection would then be optional only.

These so-called good employers would argue that since their plans are already providing better benefits than most plans, it would be inequitable to require them to comply with mandatory requirements in the same manner as less generous sponsors . Indexing benefits which start at a higher level would be more costly to these employers. Rather, these employers argue that an exemption would reward them for providing better benefits when it was strictly voluntary to do so. Further, the exemption would provide an incentive for plan sponsors to improve their benefits after the legislation comes into force.

If one accepts the need for such an exemption, one must decide upon the types of plan and benefit levels that would qualify for it. One sponsor suggested 1% unit benefits in final average earnings in excess of the Average

Industrial Wage, or its equivalent in flat benefit plans, as a possible criterion.[10] A commonly discussed possibility as an exemption level is a 2% unit benefit in final average earnings plans. One could further complicate the picture by requiring mandatory indexation until a certain percentage of compensation dedicated to pension benefits is attained (eg. no indexation if an employer contributes 10% of all compensation to pensions). Or one could reduce capping levels for sponsors with generous benefits. For example, plans using a 2% benefit might be required to escalate their pensions using the prescribed formula up to a 4% cap instead of, say, an 8% cap required for less generous sponsors.

Such exemptions, however, would decrease the uniformity of any recommended scheme. A patchwork quilt of formulas might unduly complicate a scheme's application and understanding on the part of plan sponsors and members. Moreover, such an exemption does not address the problem of real wealth transfers caused by inflation in defined benefit plans identified in Chapter 2 as one of the Task Force's main concerns. Since even generous plan sponsors profit from inflationary redistributions of wealth, one could argue they should not be exempt despite the generosity of their plans.

VI MAXIMUM LIMITS

Some might argue that those in society who have high incomes 'can take care of themselves' and therefore should be required to bear the costs and risks of inflation protection. For example, an employer providing a salary income above $50,000 per year to an employee might not be required to index the employee's pension.

There are problems with an exemption for high salary earners. One concern is that salary levels alone may not be indicative of good pension benefits. This is especially true in the case where an employee has frequently changed jobs. If pension credits have not been portable (and in some cases, even if they were portable), the pension benefits might not be as high as the income would suggest. Further, inflation might result in a nominal salary maximum being rendered unrepresentative of a good wage in a matter of years.

In 10 or 15 years, for example, the $50,000 per year salary might not represent the same relative income category as it does today. Slow legislative reaction or changing political realities might make amendment of this nominal salary level difficult. A possible solution to this problem is to set the salary exemption level at two or three times the Average Industrial Wage, so that it adjusts automatically with increases in the general wage level.

We discussed in Chapter 5 the possibility of applying inflation protection only to part of the pension paid, say on the first $35,000 of pension payments, but pointed out the administrative complexity of such a scheme when total pension payments come from different sources. Moreover, such exemptions would not address the fairness issue surrounding the redistribution of income caused by inflation in defined benefit plans and might unduly complicate the retirement income picture. Any benefits arising from this, or any type of exemption, must also be carefully weighed against the value of uniformity in any legislated inflation protection scheme.

NOTES

1. CPI-linked annuities have been made available by Standard Life.
2. Annuities linked to Treasury-Bill yields have been made available by Sun Life of Canada.
3. James E. Pesando, 'Employee Evaluation of Pension Claims and the Impact of Indexing Initiatives', Economic Inquiry, January, 1984, p. 1, at p. 14.
4. D.S. Rudd, 'The Corporate Group Pension Plan - Will it Survive?', Western Business Quarterly, Fall 1987, at p. 33.
5. Legal opinion from Professor Peter W. Hogg, 'Constitutional Authority Over Retirement Savings Plans', November, 1987.
6. Memorandum from R.V. Peter Eagen, Legal Counsel, Ministry of Financial Institutions, August 6, 1987.
7. See Transcript of Public Hearings at p. 1037.
8. Ontario Chamber of Commerce, submission to the Task Force on Inflation Protection for Employment Pension Plans, June, 1987.
9. See the background study by Michael C. Wolfson in Volume 2 entitled 'Pension Plans in Ontario: A Statistical Overview'.
10. Northern Telecom Limited, 'Mandatory Indexing: A Threat to the Future of Private Pension Plans', submission to the Task Force on Inflation Protection for Employment Pension Plans, July 3, 1987.

CHAPTER 13

Surplus

As noted in our introduction, disagreement over the control, ownership, and use of pension surpluses was one of the issues leading to the creation of this Task Force.

I CAUSES *

The emergence of 'actuarial surplus' in defined benefit plans is related to a number of different factors. To understand how actuarial surplus developed, we must first explore its meaning.

A defined benefit pension plan specifies the dollar level of benefits promised by the plan to the employee upon retirement. Given this level of benefits, the actuary calculates an associated 'liability'. In practice, as noted in Chapter 7, in the determination of the funding costs this liability is not normally based upon the actuary's (or anyone else's) 'best estimate' of future investment returns. Nor, for that matter, is the liability premised on best estimates of retirement age, termination rates, salary increases, or mortality. Rather, the liability is calculated by assuming that future conditions will be worse than the actuary's best estimate. As actuaries Frank Livsey and David Short state in their report on the development of surplus: 'The assumptions used by actuaries are not generally "best estimates" but usually incorporate some degree of conservatism. Most plan sponsors, plan members and actuaries would consider it preferable to fund the plan on a basis which provides a

---

* *In this section we have drawn on the background study set out in Volume 2 of the Research Studies by Frank Livsey and David Short, 'The Development of Funding Surpluses in Canadian Pension Plans'.*

greater than 50% probability that the funding payments will be adequate, because of need for benefit security'. For example, if the best estimate of investment returns is 8 per cent, the actuary might calculate the liability by assuming a 6 or 7 per cent rate of return. The difference between the best estimate and the assumption used in the calculation has been called an actuarial 'cushion'.[1] As indicated in Chapter 7, the new accounting rules require the use of best estimates to account for pension liabilities in financial statements. Thus, the estimate of plan liabilities (and assets) for purposes of financial statements will differ from that calculated for funding purposes.

The actuarial surplus is calculated as the difference between the value of pension fund assets and the value of the actuarial liability. Since the liability includes a cushion, the calculated actuarial surplus does not indicate the actuary's (or anyone else's) best estimate of the extent of 'excess' assets in the fund, above what is required to pay for promised benefits. To adopt an example used by Don Ezra[2], suppose that a reasonable estimate of the funds required today to pay for promised benefits was $7.5 million. Suppose further that the assets in the fund today were $10 million, but that, with the actuary's cushions, $12 million is required. On a best estimates basis, there would appear to be a surplus of $2.5 million. However, the actuary will report an 'unfunded liability' of $2 million. Because of the conservatism inherent in actuarial assumptions, the reported actuarial surplus may substantially understate the extent to which existing pension fund assets are sufficient to pay for promised future benefits. This is consistent with the desire of regulators to have safe standards of solvency. Because of serious experience deficiencies (that is, occasions when projected liabilities exceed projected assets because of differences between actual experience and assumptions previously made) in the 1970s, both actuaries and regulators have been concerned to prevent a recurrence of this situation.

This conservatism may also be desirable from the employer's point of view, since it requires larger employer contributions and thus allows higher tax deductions. The use of actuarial cushions therefore makes it less likely that the fund will become insolvent and at the same time permits the sponsor to obtain more tax deductions than otherwise. Pressure on the part of employers, actuaries, and regulatory authorities to maintain conservative actuarial assumptions has encouraged surplus growth in recent years. However, as we have seen, the tax authorities wish to limit the size of surpluses.

An important cause of the emergence of actuarial surplus is therefore the conservatism of actuarial practice, in which actuarial cushions deliberately cause surplus funds to accumulate as a hedge against uncertainty. If the best estimate of investment returns is, say, 8 per cent, an actuary may assume investment earnings of, say, 6 per cent, in order that the fund will earn 'excess' interest. As inflation became high and variable in the 1970s, some actuaries began to introduce larger cushions in various assumptions, in part because of increased uncertainty. Over the last five years, until the recent slump in the stock market, investment returns have also exceeded even the best estimates. As a result, pension assets accumulated considerably more quickly than expected. Combined with the increasing size of actuarial cushions these high returns resulted in considerable accumulation of surplus funds in recent years. Reported surpluses would be even higher if future liabilities were calculated using best estimate assumptions about the future.

However, the validity of best estimates, the conservatism of actuarial assumptions, even the existence and extent of fund surpluses, are matters of judgment and affected by events. Some of an apparent surplus has been lost in recent months because of the major decline in stock prices, and the actuarial assumptions behind the surplus look somewhat less conservative than they did at one time. How much a loss there has been of course remains to be seen. In some cases, because of the gain in bond prices as interest rates dropped, the pension fund loss may not have been particularly severe.

The high inflation experienced in the late 1970s and early 1980s was in part responsible for the high investment earnings in recent years. The return on all assets tends to increase with inflation as lenders demand a premium to compensate them for lost purchasing power. In this way expected inflation is built into the investment return. Because actuarial assumptions were not changed sufficiently to incorporate all of the effects of inflation, pension funds earned more than forecast. Thus, inflation itself was also in part responsible for the emergence of surplus in the recent past.

Beginning in 1983, inflation in Canada began to come under control. However, bonds issued just a short time earlier carried very high interest rates, reflecting the expectation that inflation would continue at a relatively high rate. Pension funds holding these bonds reaped capital gains, since the price of existing (not yet matured) bonds increases whenever a decrease in inflation is reflected in lower interest rates on newly issued bonds.[3] At the same time, buoyant stock markets conferred capital gains on pension funds holding common stocks. Thus, the effects of decelerating inflation on bond markets, combined with the strength of the stock market, tended to increase surpluses. As stated above, it remains to be seen what effect the recent market decline will have on surpluses. The investment performance in the past few years, until the recent market decline, has been extremely favourable. The Statistics Canada figures for trusteed pension plans in Canada[4] show that in 1982, there was a net return on assets of 19.9 per cent; in 1983, 16.4 per cent; in 1984, 8.7 per cent; and in 1985, 18.3 per cent. The economic assumptions used by actuaries would be far lower than this. During the same period the liabilities of pension plans also increased for several reasons: maturing of pension plan populations, increase in career length of participants, benefit rate increases, actual pay increases in excess of salary scale assumptions for pay-related plans. However, the liability increases were substantially smaller than the asset increases. Furthermore, as indicated in the study prepared by Frank Livsey and David Short, the ad hoc benefit increases for pensioners only cover a portion of inflation. Thus, liability increases for deferreds and retireds are also smaller than the asset increases.

High inflation is not always associated with high surpluses. In the mid 1970s, indeed, high inflation coincided with falling investment returns, increasing wage settlements, and consequent experience deficiencies in pension funds. Generally, asset returns do not keep pace with inflation which is unanticipated, such as that which occurred in the mid 1970s, when many pension funds were invested in long-term assets which discounted inflation at relatively low rates. Because of that adverse experience, many pension fund managers have shifted their portfolios towards shorter-term assets, whose values would not be as severely harmed by unanticipated increases in inflation. The coexistence of high inflation and experience deficiencies in the 1970s militates against any general conclusion that inflation and surpluses always occur simultaneously.

The emergence of surplus in recent years is also related to the recession of the early 1980s in the Canadian economy. Economic activity was sharply curtailed and unemployment increased markedly during the downturn, which was the deepest and the longest recession since the Great Depression. Many of those who became unemployed had not worked long enough to obtain vested pension benefits. When employment is terminated prior to vesting, all pension entitlements are forfeited apart from one's own contributions. All the assets earmarked for such employees suddenly become 'surplus' assets. In addition, the termination of even vested employees generated surplus assets in final pay plans because the liability for an active employee is calculated by assuming future salary increases. Once the employee is terminated, however, such future pay increases vanish, making the employer's liability on a termination basis for deferreds far less than on an 'ongoing' basis for active employees. As a result, the funds destined to cover increased benefits attributable to future salary increases are no longer required, and thus become surplus.

It is common practice on termination of a pension plan to purchase annuities for the accrued benefits of active members, pensioners, and deferred pensioners, particularly if the employer is going out of business. Since the insurance company issuing the annuities assumes full risk once the premiums are paid, the pension fund is left with no residual liabilities, and the true surplus can be determined exactly. In recent years the premiums charged by competitive life insurance companies for immediate and deferred annuities have been less than the liabilities established by self-administered plans for the corresponding benefits (because of the high prevailing interest rates), so that the purchase of annuities has generally led to an increase in the reported surplus. The large-scale layoffs registered during the recession of the early 1980s therefore created surplus pension fund assets. Apart from layoffs, surplus was also created by lower-than-anticipated wage increases in recent years.

Another cause of surplus growth relates to federal tax rules. As we saw in Chapter 9, current rules provide that no retiree may receive an employment pension in excess of $60,000 and still receive tax assistance for the contributions. Given a reasonable forecast of inflation, the $60,000 limit may effectively constrain the projected pension of an employee now earning a fairly modest salary who is expected to continue working for another 35 years. Nevertheless, actuaries have not been permitted to assume an increase in this limit, even though the federal government would be unlikely to keep the limit at $60,000 if, for example, the Average Industrial Wage were $80,000.

The requirement that the $60,000 limit be observed has caused actuaries to assume lower liabilities than would be realistic. Thus, existing funds (which might ultimately provide pensions in excess of $60,000) must be deemed surplus, since it is forbidden to assume explicitly a higher pension than $60,000. Some actuarial surpluses caused by this rule may in fact disappear if the rule were changed. Frank Livsey and David Short show the importance of this restriction:

> It is impossible to generalize about the impact of the Revenue Canada maximum pension on the funding of pension plans and on their reported surpluses. For some plans (even of the final average earnings type) the impact has been negligible; for others it has been very significant. However, the experience of the authors is that, for many final average earnings plans which are currently reporting a surplus, the reported surplus would be significantly reduced (or even replaced by an unfunded liability in some cases) if it were assumed that the Revenue Canada maximum pension will increase in line with average earnings levels as proposed in the June 1987 White Paper.

In some cases the surpluses are the result of superior investment performance. While this may be so, we agree with Livsey and Short's conclusion that a comparison of the expected return (based on the portfolio composition of market returns for such an investment) and the actual return of the pension investments 'shows that the pension funds in general are not outperforming the market, given their investment policies'.

To summarize: surplus growth has been caused by a number of factors. High rates of return on investment and actuarial conservatism are important causes. In addition, the recession of the early 1980s was a factor, as is the federal tax rule limiting pensions to $60,000. Surplus had grown over the past few years because of very favourable stock market performance, but, as we have recently observed, these stock market gains can quickly disappear.

II EXTENT

As indicated above, the 'actuarial surplus' in a pension plan is an imprecise and ill-defined quantity. Different actuaries having different views about the future or different ideas about what constitutes an appropriate cushion will come to very different answers if asked how much surplus there is in a given plan.

As pointed out in Chapter 7, actuarial predictions are aiming at a very 'fuzzy target'.[5] The background study prepared for us by Frank Livsey and David Short makes the same point: 'the reported surplus or unfunded liability should only be regarded as an estimate, based on one particular set of assumptions that will certainly not be realized exactly. It is not an amount that is capable of precise and objective determination.' They provide an illustration of the effect on surplus of various actuarial assumptions in a hypothetical but typical pension plan:

> The following table shows the change in the accrued liability for active employees and in the reported surplus or unfunded liability if it were assumed that the flat dollar component of the Revenue Canada maximum will increase in line with general salary levels after 1994 (as proposed in the June 1987 federal White Paper on Income Tax Reform). All figures are in millions of dollars.

	Actuarial basis		
	5% interest 4% salary	7% interest 6% salary	9% interest 8% salary
Accrued liability for active employees:			
- present maximum pension	113.1	91.2	70.7
- proposed maximum pension	114.2	96.7	82.6
Surplus (unfunded liability):			
- present maximum pension	(30.0)	(3.0)	21.8
- proposed maximum pension	(31.1)	(8.5)	9.9

> The above table shows that the change in the maximum pension has a much greater impact where relatively high investment return and salary increase assumptions are used than where lower rates are used. Where salaries are assumed to increase at a higher rate, the number of employees affected by the present maximum pension will be higher.

Small changes in the interest and salary rate assumptions can obviously have a dramatic effect on the extent of the surplus.

Surplus is therefore in the eye of the beholder. Indeed, for many plans the new accounting rules which require the use of 'best estimates' to account for pension liabilities (which does not necessarily affect funding) may produce 'accounting surplus' figures which are well in excess of 'actuarial surplus'. Thus, it is not easy to state unequivocally how extensive current surpluses are in ongoing plans.

The Pension Commission of Ontario (PCO) regularly surveys a sample of about 200 large plans, looking at the 'funded ratios' reported in the actuarial valuations. The funded ratio expresses fund assets as a percentage of actuarially calculated ongoing liabilities. In this context, 'liabilities' include actuarial cushions and projected future salary increases in final pay plans. An additional concept concerns the solvency valuation of each plan, where the liability and assets are calculated as if the plan were being terminated. If the plan were wound up, actual liabilities would be much lower for many plans, particularly final average plans, since projected future salary increases would not yet have taken place. (They may be higher than career average and flat benefit plans.) Thus, the reported aggregate funded ratio could be much lower than 100 per cent in the case of final average plans without any real danger of widespread insolvency.

The 1984 PCO study utilized actuarial valuations done in 1981, 1982, and 1983. For this period, the aggregate funded ratio was 88 per cent. About one-third of the plans surveyed reported an actuarial surplus, while two-thirds had an unfunded liability. As suggested above, however, it would be incorrect to conclude that most pension plans were underfunded.

The situation changed sharply between 1984 and 1987. The 1987 PCO study was based on valuations done in 1984, 1985, and 1986. In this later period, aggregate assets were equal to 102 per cent of ongoing actuarial liabilities. Sixty per cent of surveyed plans were now in a surplus position, while only 40 per cent had an unfunded liability. Thus, while many plans still had unfunded liabilities, the aggregated funded status of pension plans registered in Ontario had improved markedly in three years.

These figures are therefore consistent with the view that, until the recent stock market decline, surplus funds in pension plans were more prevalent than they were just a few years ago. It is difficult to state unequivocally that the aggregate surplus is large. Moreover, a blanket statement would lose sight of the fact that many plans, particularly union-negotiated flat benefit plans, have unfunded liabilities. And, as we have stressed, the removal of the $60,000 limit will significantly affect the extent of surplus. Generally, however, it seems fair to conclude that pension fund surplus has become increasingly important as its apparent magnitude increased in recent years. The recent decline in the stock market has, in general, significantly decreased the extent of surpluses in individual plans, but we believe that surpluses are still of considerable importance to plan sponsors and others.

III USE

When a plan sponsor is advised by the actuary that a surplus exists, there are a number of different possible reactions. One possibility, of course, is simply to do nothing. The surplus can be viewed as a contingency fund. If investment returns fall in the future, the surplus attributable to current high returns can be used to offset future deficiencies. However, if actuaries' best estimates (i.e. not including the cushion) turned out on average and in the long run to be correct, a strategy of doing nothing with surplus would result in an ever-increasing surplus. Thus, over the long run, a surplus is expected to develop.

Employer sponsors have sometimes simply done nothing, but more commonly they have used surplus in a wide variety of ways. Since 1970, many employers have used surplus funds to upgrade their pension benefits. For example, as discussed in Chapter 2, many career average plans have been converted to a final average format.[6] Unit benefits have been increased from 1% to $1^1/_2$% or even 2% in many cases. Moreover, other upgrades which do not appear in the data in Chapter 2 include early retirement and joint and survivor features. Generally speaking, a relatively large portion of surplus earnings has been devoted to upgrading benefits.

Detailed data from the Pension Commission of Ontario show an unmistakable trend towards improvements in pension plans. Benefit upgrades have taken many forms, including increases in unit benefits, reductions in required employee contributions, and the conversion of career average to final average plans. Michael Wolfson's background study, 'Pension Plans in Ontario: A Statistical Overview', in Volume 1 of the Research Studies, shows the same trend.

Another increasingly prevalent feature has been the granting of cost-of-living increments voluntarily by sponsors (see Chapter 3). Such ad hoc increases are frequently granted from surplus earnings, particularly in larger pension plans. Sometimes, however, they are granted out of general corporate revenue, although the motivation for granting them was the existence of surplus in the pension fund. Nevertheless, to the extent that the increases were granted because of the surplus in the pension fund, such a process constitutes an indirect method of using surplus. Indeed, increasing employee compensation in any form because of surplus in a pension plan is an indirect way of using surplus.

Another way to use surplus is to reduce or even eliminate employer and/or employee contributions for a given period of time. Where contribution levels are not specified, 'contribution holidays' would appear to be permissible, at least according to the majority opinion in a recent Ontario Supreme Court case (CUPE v. Ontario Hydro).[7] However, the legality of contribution holidays is not free from doubt, as the latter case involved the special circumstances of the Hydro plan and included a strong dissenting opinion. The case is currently under appeal to the Ontario Court of Appeal.

A more direct way to use surplus assets is to withdraw them from the pension plan. In theory, this could involve payments from the fund to employees (actives, deferreds, or retireds) in contributory plans. In practice, however, it has generally been sponsors that have attempted to withdraw surplus. Such withdrawals must be approved by the Pension Commission of Ontario. Controversy surrounds the legality of employer withdrawals of surplus. The issues of surplus withdrawal and surplus ownership and control are explored in the remaining sections of this chapter.

At this point, we repeat that the size of the surplus depends crucially on actuarial assumptions, including implicit cushions. Therefore, an employer who wishes to withdraw funds from a pension plan might be able to convince the actuary to reduce the implicit cushion (i.e. make the assumptions less conservative and, say, raise the valuation rate from 6 to 7 per cent) to withdraw more. Alternatively, if the government were to legislate any particular use of surplus, the actuary could increase the size of the cushion (eg. lower the valuation rate from, say, 6 to 5 per cent), and thereby eliminate existing surplus. Increasing the cushion, however, would involve increasing future contributions and higher future accumulations of surplus. The important point is that in any discussion of the use and ownership of surplus, it must be remembered that the latter quantity is imprecise and ill-defined.

IV WITHDRAWALS

There have been, in recent years, a number of applications by plan sponsors to the PCO and other administrative authorities requesting surplus withdrawals.

Statistics kept by the Pension Commission of Ontario show the following surplus withdrawals from on-going plans from 1980-81 to the present (final 1986 figure still to be obtained):

Surplus Withdrawals From On-Going Plans
1980-81 To Present

Fiscal Year	Number	Amount ($ million)
1980-81	22	2.7
1981-82	31	14.2
1982-83	53	32.1
1983-84	55	28.4
1984-85	70	176.6
1985-86	50	187.2
01/4/86-26/8/86	23	41.9

Because of the legislative prohibition, no withdrawals from on-going plans occurred after the date of the introduction of the Ontario Pension Benefits Bill in December 1986. (No statistics are kept by the PCO on contribution holidays.)

Chapter 13: Surplus

Data from the federal Office of the Superintendent of Financial Institutions illustrate that between 1981 and 1986 the Department (regulating plans registered under the federal PBSA) received 35 requests for surplus removal with a total value of over $88 million. Of these requests, 33 were approved and were valued at over $68 million. Since total actuarial value of assets in plans where surplus removal was allowed was about $2.2 billion, 3 per cent of the value of the assets was therefore removed. Moreover, the majority of the applications and withdrawals took place in the last two years of the sample (1984-85 and 1985-86). Indeed, these two years accounted for 24 of the 35 requests, 23 of the 33 approvals, and over $57 million of the $68 million withdrawn.

Because of these types of applications, and particularly their recent increase in frequency, Acts and regulations governing employment pension plans have been amended to include guidelines and requirements that must be met before surplus withdrawal can occur.

A Ontario

In Ontario, withdrawal rules are contained in sections 79 and 80 of the Pension Benefits Act, 1987. Thus, an employer wishing to remove surplus must obtain the prior consent of the PCO (subs. 79 (1)). On application for withdrawal, the employer must notify all beneficiaries of the plan and other interested parties, such as unions and pension advisory committees, of the intention to withdraw surplus from the plan (subs. 79 (2)).

The criteria upon which the PCO must evaluate applications for withdrawals from ongoing plans are set out in detail in S. 80. The PCO must be satisfied that the plan has a reported surplus (para. 80 (1) (a)). The plan must provide for employer withdrawals from the ongoing plan, or the employer must be otherwise able to satisfy the PCO that it is entitled to withdraw funds (para. 80(1)(b)). Further, only surplus in excess of specified minima can be withdrawn. An amount equal to two years of the employer's current service costs must remain in the fund as surplus in plans guaranteed by insurance companies (para. 80 (1) (c)). In non-contributory plans, the greater of two years' service costs or 25% of plan liabilities must be retained in the fund, and in contributory plans, these amounts, plus all employee contributions, must remain (paras. 80 (1) (d) and (e)). Finally, there must be compliance with any other requirements in the Act or the Regulations (para. 80 (1) (f)).

Where plans are silent with respect to withdrawals from ongoing plans, subsection 80 (2), coming into force on January 1, 1989, deems withdrawals of moneys accrued after the 31st of December, 1986, to be prohibited. Subsection 80 (2) reads as follows:

> A pension plan that does not provide for the withdrawal of surplus moneys while the pension plan continues in existence shall be construed to prohibit the withdrawal of surplus moneys accrued after the 31st day of December, 1986.

Employers must therefore establish in the documents of the plan that they are entitled to withdraw surpluses if they wish to do so after the deeming provision takes effect. Whether employers can legally amend pension plans unilaterally to comply with this provision may prove to be a complex and contentious issue, as we shall see below. We stress that this provision applies only to surpluses arising after the end of 1986. It does not deal with surpluses that arose before that date.

For plan wind-up, withdrawals from surplus will be allowed after consent and notification, provided a surplus exists and the plan permits the reversion of such a surplus to the employer, and once provision has been made for the payment of all termination liabilities to plan beneficiaries (subs. 80(4)). Where plans are silent with respect to withdrawal on termination, subsection 80(5), coming into force on January 1, 1989, states as follows:

> A pension plan that does not provide for payment of surplus moneys on the wind up of the pension plan shall be construed to require that surplus moneys accrued after the 31st day of December, 1986 shall be distributed proportionately on the wind up of the pension plan among members, former members and any other persons entitled to payments under the pension plan on the date of the wind up.

In these cases, therefore, the surplus will be distributed proportionately to actives, retirees, and deferreds. Again this provision does not affect surplus arising before 1987.

It should also be noted that subs. 80 (10) is the temporary moratorium on surplus withdrawals referred to in our introduction. The Act is silent with respect to contribution holidays.

B Other Jurisdictions

The position in principle reached on surplus withdrawal in the Federal-Provincial Consensus was that surplus on wind-up might revert to plan sponsors. In on-going plans, withdrawals by sponsors would be permitted, subject to withholding amounts and contract restrictions. These limitations were those elaborated upon in the Ontario Act.

Consequently, post-Consensus Acts and amendments in other jurisdictions have rendered withdrawal provisions in these jurisdictions very similar to those contained in Ontario. Such is now the case with Sections 83 and 84 of Nova Scotia's Pension Benefits Act, 1987, Section 588 of Alberta's Employment Pension Plans Act, and Section 39 of the Regulations, and it will likely be the case when New Brunswick drafts the regulations containing the 'prescribed criteria' mentioned in subs. 59 (5) of Bill 55. Federal regulations, contained in the PBSA and S. 16 of the Regulations, are also similar.

Special attention must be given to the Manitoba requirements. An amendment, S. 22(1.1) of the Pension Benefits Act, provides that no funds are to be paid out of a pension plan to an employer unless the Commission believes it is 'equitable' to do so and consents in writing. This amendment was passed in August 1986. Until 'equitable' could be defined, a freeze was placed on surplus withdrawals.

The Manitoba Pension Commission has proposed surplus withdrawal guidelines to the government of Manitoba. These proposals are now being studied by that province's cabinet, and a decision on their acceptance is expected shortly. 'Equitable', as defined in the guidelines, requires consent and notice, requires an employer's legal entitlement to surplus to be explicitly provided for in the plan provisions, and requires that the plan be solvent according to the same requirements as in Ontario. Thus far, these guidelines render 'equitable' to mean the same thing as the provisions in the Federal-Provincial Consensus. However, the guidelines go further and state:

> A surplus withdrawal will not be considered equitable unless the accrued benefits of plan members have been increased to offset the effect of past inflation. Other benefit improvements, of equal cost, would also be accepted.

Thus, pension surpluses might soon have to be used to provide inflation adjustments or benefit improvements in Manitoba, before they can become available for withdrawal.

In Quebec, S. 292 of Bill 58 would have permitted surplus reversions to employers on total wind-ups of plans where the plan so provided. An amendment to plan provisions allowing surplus reversion would not have taken effect for three years following formal amendment of the plan (S. 25). In on-going plans, surplus assets could not be removed but could only be used to reduce contributions (S. 151). The Bill, however, died on the order paper before the last general election in that province. Therefore, according to S. 43 of the Supplemental Pension Plans Act, there can be no surplus reversions in the province of Quebec, unless a plan has been terminated and all benefits have been paid out.

Saskatchewan, according to S. 79 of the Regulations to its Pension Benefits Act, requires the consent of the Pension Superintendent prior to withdrawal. Newfoundland, in subs. 2 (13) of its Pension Benefits Act Regulations, provides that any surplus may be used to reduce future current service payments, or to reduce the balance of any initial unfunded liabilities or experience deficiencies. It is likely these provinces will eventually conform to the Consensus position.

British Columbia and Prince Edward Island, having no Pension Benefits Acts, place no statutory control on the use of pension surpluses.

V OWNERSHIP *

While the guidelines and criteria found in these various pieces of pension legislation provide some guidance with respect to future surplus withdrawals, the Acts do not appear to answer the controversial question of who owns existing pension surpluses. As Professor Donovan Waters points out, the Ontario PBA does not say whether a pension fund is merely a contractual guarantee of defined benefits or a trust device for holding the employee's funds until payments are to be made to them. Waters concedes that the Act does provide a 'solution of sorts' for surplus accumulating after December 31, 1986. However, as the Act does not squarely deal with the ownership question, the controversial question of access to pre-1986 assets is not addressed. Finally, as Waters points out, definitional inconsistencies in the Act still allow both the trust argument and the defined benefit argument to be validly advanced, based upon the text of the legislation. The controversy over surplus ownership remains.

As the various legal opinions contained in Volume 2 indicate, there is no consensus on the question of ownership of pension surpluses. Two conflicting streams of case law have emerged. The first stream, mentioned above, maintains that pension funds are trusts set up only as a result of a contract. Their role is to guarantee a defined benefit. Therefore any surplus is the property of plan sponsors, and employees are entitled only to the explicit contractual right (the defined benefit) bargained for in the labour contract, unless the terms of a particular plan specifically allocate the ownership of any surplus funds to them. This view is the more prevalent view in English case law, and was the basis of the decision in the 1986 Gainers case.[8] This view is supported by Professors Ralph Scane and Donovan Waters (see Volume 2).

The second approach views pension funds as trust funds established for the benefit of employees. As such, the plan sponsor may not claim ownership

---

* *In this section we have relied on the background papers prepared for the Task Force, and set out in Volume 2 of the Research Studies: Bernard Adell, 'Pension Plan Surpluses and the Law: Finding a Path for Reform'; Donald J.M. Brown, 'Surplus Issues Pertaining to the New Pension Benefits Act, Section 80'; Raymond Koskie, 'An Analysis of Ontario Law with Respect to Surplus in Pension Plans'; Ralph E. Scane, 'Legal Position in Ontario on Withdrawals of Surpluses'; and Donovan Waters, 'The Use of Surpluses in Pension Plans Operating in Ontario'.*

of the plan fund or any surplus that arises from it. This view is sometimes buttressed by the argument that deferred employer contributions to pension funds are explicitly or at least implicitly bargained for in the labour contract as a part of employee wages and would have been paid directly to employees had they not been allocated to pay for pensions. Thus, any accumulated fund resulting from this contribution belongs to the employees, for whose benefit the monies were originally set aside. Professor Bernard Adell and Raymond Koskie favour this approach.

Ontario courts, after close examination of plan documents have, in general, favoured the trust approach. In 1984, the Ontario Court of Appeal held in the Reevie case (Reevie v. Montreal Trust Company (1986))[9] that a plan document stating contributions were 'irrevocable' in effect created a trust. As Mr. Justice Zuber stated for the Court: 'At the centre of this dispute lies the simple fact that the funds in dispute are trust funds.' An employer could not, according to trust law principles, unilaterally amend a pension document, unless the power to do so is clearly given to the plan sponsor. This decision has become the most important precedent in Ontario dealing with surplus issues. It should be pointed out, however, that pension plans originally used the term 'irrevocable', when referring to employer contributions, in order to comply with federal requirements for tax exempt status. Therefore, one might question the argument that such terminology is evidence of the employer's intention to create a trust. If a case were to be heard by the Supreme Court of Canada, they could well reject the Reevie principle. Both Professors Scane and Waters, as stated above, view the issue as one of contract and Professor Scane suggests that a case like Reevie can be interpreted on the basis that courts will continue to assess a document contrary to the interests of the person who drafted it, that is, the company.

These legal opinions show the marked divergence of approaches to the question of ownership. In submissions to the Task Force, and in our public hearings, no issue aroused more heated discussion than the question of surplus ownership.

VI A LEGISLATIVE SOLUTION

The general question of ownership of existing surplus is, as we have stated above, unclear. Moreover, there are no cases now pending before the Supreme Court of Canada that might clarify the picture. In the past, the Supreme Court has refused leave to appeal in surplus cases, even though urged to assist in clarifying the law. Perhaps the Court saw that to enter the field might not, in fact, give the guidance needed. Legislation varies from province to province and the result could vary according to the language in each particular plan, the representations made by the plan sponsor, and other factors. Even if the Supreme Court took on the task of giving guidance, it would be unlikely to fully clarify the situation. The case-by-case judicial process may not be the best technique for clarifying the public policy considerations in this difficult area. Legislation could be a better solution.

The new Act does not solve the pre-1987 surplus question. As Professor Waters asks in his study for us, why does the Act not prevent costly and damaging employer/employee litigation by making its position clear? 'To my mind', writes Professor Waters, 'a new legislative policy dealing with surplus, and the uses to which it is to be put, is greatly needed'. Professor Bernard Adell takes the same position on the need for legislation, stating with respect to the present administrative provisions:

> Section 80 lists various situations in which the Pension Commission of Ontario may not consent to a surplus withdrawal by an employer, but it stops well short of enunciating any legislative policy on who should benefit from surpluses. The Commission is empowered by s. 80(6) to 'attach such conditions and limitations to its consent as the Commission considers necessary in the circumstances'. There is no guidance as to what the Commission should or should not consider 'necessary', and the criterion of 'necessity' gives the Commission a less clear mandate to develop substantive policy than the criterion of equitability, discussed . . . in the Manitoba Act.
>
> Administrative discretion serves a valid and socially important purpose when it gives a specialized tribunal the task of applying legislatively mandated principles and policies to a range of problems or conflicts too complex or too multi-faceted to be resolved sensitively and effectively by the courts. It does not serve any valid purpose when it is used as a substitute for legislative determination of the basic policies and principles that are to govern the problem area

> in question. Unfortunately, that is what has happened with respect to the regulation of surplus withdrawals. Legislatures have simply failed in their duty to face and decide the substantive policy question which, in our system of government, only the legislature can properly decide: the question of who should benefit from surplus funds in pension plans.
>
> In Ontario, the Pension Commission, stung by judicial criticism of decisions which it was expected to make out of whole cloth, has announced that it will henceforth stand back and let the courts make any difficult decisions on surplus entitlement. Even in areas where they have had far clearer policy guidance from the legislatures, the courts have often proven to be the wrong forum for resolving disputes which involve sharply conflicting social interests.

One possible legislative solution would be to allow the withdrawal if the plan sponsor has made adequate provision for retroactive inflation protection for deferreds, retireds, and actives. The legislation could state that in such cases the withdrawn surplus belongs to the plan sponsor. Such a provision is necessary because permitting withdrawal with the consent of the Pension Commission does not, by itself, solve the ownership question, although it clearly gives the plan sponsor a psychological, if not a legal, presumption of ownership if the withdrawal is later challenged. As discussed earlier in this chapter, there is considerable doubt about whether a plan sponsor can unilaterally amend plan documents to claim ownership of surplus. The solution discussed here would clarify that issue and give the sponsor the legal right of amendment.

What would be considered 'adequate' inflation protection such that withdrawal would be permitted by the Pension Commission? It could be the formula that the Legislature adopts for prospective inflation protection, or it could be a lesser amount. So, for example, if the prospective formula was 60% of CPI, the legislation could permit withdrawal if the past and present employees received inflation protection equal to 60% or, say, half or two-thirds of that sum. Of course, it could be even a higher percentage than the prospective formula: for example, it could provide that there be no withdrawal unless past credits were protected in the future at 100% of inflation. Regardless of the retroactive formula chosen before surplus can be withdrawn, the promise of inflation protection should be properly funded, whatever position is taken on permitting pay-as-you-go funding for inflation protection in other cases.

This type of solution is similar in some respects to the proposed Manitoba scheme, which permits withdrawal only where it is 'equitable' to do so. In effect, in the scheme discussed here, what is equitable would be spelled out in the legislation itself. Coupled with such a scheme could be a provision permitting a company to borrow the surplus funds under certain conditions.

One could go even further and provide that a plan sponsor not be permitted a 'contribution holiday' until adequate inflation protection for past credits was funded. This is a more drastic step. Although funding holidays look very much like withdrawals of surplus, symbolically they are different. As Professor Adell states: 'the practical and symbolic effects of a contribution holiday may be different, and may render it somewhat less invasive of legitimate employee interests'. The main difference between the two, he points out, is the speed with which the surplus disappears.

We will return to an exploration of these ideas in the concluding chapter.

NOTES

1. D. Don Ezra, The Struggle For Pension Fund Wealth (1983), Toronto: Pagurian Press Limited, at p. 38.
2. Ibid., at pp. 38-9.
3. See James E. Pesando's Research Study in Volume 1 entitled 'Assessment of Alternative Formulas for Delivering Inflation Protection'.
4. See the study in Volume 1 of the Research Studies by Frank Livsey and David A. Short entitled 'The Development of Funding Surpluses in Canadian Pension Plans'.
5. See the Research Study in Volume 1 by Keith P. Sharp entitled 'Pension Funding Assumptions and Pension Indexation'.
6. See the Research Study in Volume 1 by Michael C. Wolfson entitled 'Pension Plans in Ontario: A Statistical Overview', Table 3.
7. Re CUPE and Ontario Hydro (1987), 59 O.R. (2d) 31 (Div. Ct.).
8. United Food and Commercial Workers International Union Local 280-P v. Gainers Inc., unreported, October 28, 1986, (Alta. L.R.B.).
9. Re Reevie and Montreal Trust Company (1986), 53 O.R. (2d) 595 (C.A.); application for leave to appeal to Supreme Court of Canada dismissed, 56 O.R. (2d) 192.

CHAPTER 14

Summary and Conclusions: Inflation Protection for Employment Pension Plans

The Task Force was established in December 1986 -- in the words of the Order-in-Council appointing us -- 'to ensure that the direction given for implementation' of inflation protection 'is well reasoned and effective' and specifically 'to determine the most appropriate formula and phase-in procedures for inflation protection'.

The terms of reference ask us to consider 'the needs of employees to have retirement income protected from the effects of inflation'. Chapter 1 describes the volatile nature of the rate of inflation in Canada over the past 50 years. In particular, the 1970s and early 1980s brought very high inflation rates, and retired employees without inflation protection saw the value of their pensions decline significantly.

A person retiring in 1965 with an initial employment pension of, say, $100 a month would have seen its value decline by 1985 to $26 a month in 1965 terms. Even someone retiring as recently as 1980 with a $100 benefit would have seen the real value decline to $63 by 1985.

Of course, one has no way of predicting what inflation will be in the future. It may be less severe than in the past 20 years; on the other hand, it may be worse. Coupled with uncertainty about the inflation rate is the fact that people are living longer, causing an even greater decrease in purchasing power.

One compensating factor is that payments of Old Age Security and from the Canada Pension Plan are fully indexed to inflation. So, for example, if annual inflation averaged 5 per cent, a person retiring with the maximum employment pension permitted by Revenue Canada at the Average Industrial Wage would still have about two-thirds of his or her total initial retirement purchasing power after 20 years of retirement. And, if the employment pension plan was less generous than the maximum permitted or was based on final earnings less than the Average Industrial Wage, the percentage of total purchasing power remaining after twenty years would be even higher. Conversely, those with higher earnings would have a greater loss in purchasing power.

Legislated inflation protection of employment pension plans cannot help those most in need of assistance, that is low-income persons without any employment pension plans. As we show in Chapter 2, only about half of all employed paid workers in Canada have any type of employment pension plan, and when unemployment is taken into consideration, less than 40 per cent of the total work force have such plans. Thus, it has to be kept constantly in mind that to the extent we are imposing a financial burden on plan sponsors, we are only doing so on companies that already have pension plans. There is no legislative requirement that a company establish or continue a plan.

Our terms of reference ask us to consider 'the importance of maintaining and expanding the private pension system and, in particular, defined benefit plans'. The maintenance and expansion of employment pension plans is clearly desirable, and we do not want our recommendations to deter the growth of such plans.

We also wish to encourage the growth of defined benefit plans. In our opinion, the defined benefit plan has certain major advantages to employees. With a defined benefit plan, the risk of poor investment performance falls on the plan sponsor, not, as in a money purchase plan, on the employee, who is usually not in a position to take the risk. Moreover, the annuity to be paid at the time of retirement is fixed and known and does not depend on the interest rate that happens to exist at the time of retirement, as in a money purchase plan.

The defined benefit plan has one major drawback, however. Without some form of inflation protection, there can be an inequitable redistribution of resources away from pensioners to the plan sponsors, who, in many cases, use these funds to upgrade the benefits of the active workers. Pensioners suffer by not having their pensions increase with inflation; yet the fund used to provide these benefits continues to grow at a speed that varies with the rate of inflation. It is not acceptable for pensioners to carry an unfair share of the burden imposed by inflation.

In Chapter 3 we examined whether plan sponsors have been dealing with this potential inequality by granting increases that go some way to meeting inflationary increases. There has been very little automatic inflation protection in the private sector -- well under 10 per cent of the plans. Indexation in the public sector is much more common. Although many employers grant voluntary, or, as they are called, 'ad hoc' increases, the extent of indexation is quite low compared to the rate of inflation. One major survey showed that the increases granted over the past 10 years by the median company were under 30 per cent of the inflation rate. There is great unevenness in granting ad hoc adjustments. Larger companies granted them more often than smaller companies, while Canadian companies granted them more often than Canadian subsidiaries of U.S. based companies.

A solution is needed to help ensure that in future the unfair potential redistribution of resources away from pensioners in defined benefit plans does not continue to occur to the extent that it has in the past. We will come to the issue of retroactivity later in this chapter. At this stage, we will concentrate on prospective inflation protection, that is, inflation protection that applies only to benefits earned in the future.

Legislation dealing with inflation protection should impose a minimum standard. Many companies will go beyond that standard, just as most companies go beyond the province's minimum wage law. As we have seen recently in the auto industry, there is great scope for the collective bargaining process in this area.

Moreover, as we have already stated, we want to encourage the growth of pension plans and particularly defined benefit plans. The cost and administrative burden of recent pension reforms, coupled with the simplicity and attractiveness of money purchase (defined contribution) plans (described in Chapters 7 and 12), mean that one can expect new plans, many existing smaller plans, and even some of the larger plans, to avoid the defined benefit arrangement. If the inflation protection formula we choose is unduly onerous we would accelerate this trend. We will have more to say about the inconsistency between the government's liberal approach to the very flexible RRSPs on the one hand and its restrictive approach to the tightly controlled pension plans on the other. The remainder of this chapter sets out our recommendations.

Chapter 14: Summary and Conclusions

A CPI-Linked Formula

The cost of indexing to the plan sponsor is obviously of great importance. Our terms of reference ask us to consider 'the needs of employers to have finite and affordable costs'. The cost study in Chapter 8 looks at costs to the plan sponsor on a number of bases: long-run costs, short-run costs at assumed rates of inflation, and costs that would occur if the experience of the past 20 years repeats itself. Moreover, the cost study examines the accountant's expensing costs (described in Chapter 7) as well as the actuary's funding costs. Costs are examined on the basis of retroactive as well as prospective application. We will leave the discussion of retroactivity until later.

The higher the inflation formula, the greater the cost. As we saw in Chapter 8, a 100% inflation formula without caps would result in very high potential costs. This would lead in many cases to the discontinuance of plans or the passing on of the cost to employees through lower salaries or reduced benefits in the future. A less onerous formula, we expect, might not reduce the benefit but would probably be absorbed by the company, at least in the short run. As we discussed in Chapter 7, because of the new accounting rules, plan sponsors will be using a more realistic valuation for expensing purposes. In many cases this change will influence funding costs and lower current pension costs by shifting their incidence into the future. Thus, now might be considered a good time for introducing inflation protection.

What minimum formula should be imposed by legislation? As we discussed in Chapters 5 and 6, it should be one linked to the Consumer Price Index. The CPI is well known and easily understood by almost everyone. It is always current, appearing monthly. We showed in Chapter 6 that there is no necessity to construct a special index for retired persons because the CPI tracks their expenditure patterns fairly closely. Although a wage-related formula would have much to commend it if a 100% formula were selected, it is an unnecessary refinement if a more modest formula is chosen.

Recommendation 1:

> **A CPI-linked formula should be selected as the legislated minimum standard for inflation protection.**

An excess earnings formula does not track inflation very well and does not give employees the certainty that a CPI-linked formula does, and so we do not recommend it as a desirable approach, although we will have more to say about an alternative excess earnings approach later.

There are two basic approaches to a CPI-linked formula. It could be, say, (100% of CPI) -$2^{1}/_{2}$%, i.e. full inflation protection with a deductible, or it could be a percentage of CPI, say 60%. Both formulas are equivalent when inflation is about 6%. The (100% of CPI) -$2^{1}/_{2}$% formula protects employees from catastrophe, i.e. when inflation is very high, but it does not protect them very well from slow year-by-year deterioration of the real value of their pensions when inflation is relatively low. The 60% formula is better for employees at low rates of inflation but does not protect them adequately when inflation is high. Some employees would prefer the former approach, i.e. protecting them from catastrophe; others would prefer the latter approach and would be prepared to apply for supplementary benefits (GIS or GAINS) if their income proves inadequate. Both positions are understandable and depend to a considerable extent on the person's financial position and attitude towards risk.

From the employer's point of view, (100% of CPI) -$2^{1}/_{2}$% is less costly at low rates of inflation, but could produce very high costs, at least in the short run, if inflation rose above, say, 10 per cent annually. The 60% formula would be more expensive to the employer at low rates of inflation, but less expensive at high rates of inflation, than (100% of CPI) -$2^{1}/_{2}$%.

We think that both views are accommodated to a considerable extent by the comparable formula of (75% of CPI) -1%. It is about the same as (100% of CPI) -$2^{1}/_{2}$% and 60% of CPI at 6% inflation. It goes further than the 60% formula in protecting employees from catastrophic inflation, but it is not as corrosive over years of relatively low inflation as a deductible of $2^{1}/_{2}$%.

One advantage of this formula is that it is the same as the federal formula which is now applied on an optional basis to deferred pensions. The more uniformity one can achieve in the pension system across Canada, the better.

Recommendation 2:

> **The formula (75% of CPI) -1% should be the legislated minimum standard.**

Smoothing and Timing of Adjustments

A cap on the total increase is desirable to protect the employer from a very sudden increase in costs because of an unexpected rise in the rate of inflation in one year. Over the long run, a sudden cost increase is not a problem because investment yields will tend to match inflation and our recommended formulas are significantly less than the rate of inflation. It is only a problem in the short run. Indeed, over the long run a plan sponsor will benefit from higher inflation rates regardless of the formula adopted. So whatever cap is chosen, it should only be to prevent high costs in any particular year. The excess over the cap should be 'banked' and paid in years when the increases are below the cap. This is often referred to as a cap with a rollover.

We would choose a ceiling of 10% of the CPI for any annual adjustment. This would mean that with a (75% of CPI) -1% formula, the cap would bind when inflation in any year exceeded 10 per cent. This has happened in only seven of the past 50 years. (See Figure 1.1 in this Report.) This would mean that with a (75% of CPI) -1% formula the cap in any one year would be 6.5%. Because of the rollover, the cap has a small effect on the benefits to retireds. Indeed any deficiency in indexing caused by the 10% cap would have been made up over the past 50 years in the very first year that the CPI fell below 10 per cent. The cap with rollover does however reduce the variability of costs to the employer, a problem demonstrated in the Stage III studies described in Chapter 8.

Recommendation 3:

> **The maximum annual CPI increase to be recognized in the pension adjustments should be 10%, with the excess adjustment in years when the CPI increase is more than 10% being carried forward to years in which the CPI increase is less than 10%.**

A question arises whether a negative inflation rate -- which has occurred twice in the last 50 years -- should cause the pension to be decreased. We do not think so, but would recommend that future increases be reduced by a comparable amount if such an event happens.

Recommendation 4:

> **Negative inflation should be taken into account to decrease subsequent adjustments.**

A further issue concerns the timing of the adjustments. We believe the sponsor should make the adjustment at least once a year. Some will, of course, adjust the pension more frequently.

Recommendation 5:

> **The adjustment should take place at least once a year.**

Alternative Acceptable Formulas

Should the legislation permit alternative formulas? We think it should. If the plan sponsor wishes to adopt a scheme for inflation protection which on the whole is better than the actuarial equivalent of (75% of CPI) -1%, we see no objection to the sponsor doing so. Flexibility is desirable, particularly in a pension scheme which is voluntary. Why impose rigidity if the plan members prefer an alternative scheme? We would leave it to the Pension Commission of Ontario to develop regulations and guidelines specifying what would be acceptable. No doubt the Canadian Institute of Actuaries would also develop standards in this area. We envisage that the regulations would require that an actuary certify that the inflation protection be actuarially better than the standard of (75% of CPI) -1%. This certification would, of course, be subject to review by the Commission.

We have already seen that both 60% of CPI and (100% of CPI) -$2^{1}/_{2}$% are about the same as (75% of CPI) -1% at 6 per cent inflation. No doubt, similar formulas would be accepted as substitutes if the actuary's long-run prediction for inflation was 6 per cent. A formula, such as one used at a major university, of the better of 60% of CPI or (100% of CPI) -4% would certainly be seen as offering actuarially better inflation protection than (75% of CPI) -1%. Some plan sponsors might wish to give greater protection at later periods after retirement. Further, caps or increases could vary from that proposed above. The regulations should permit this type of flexibility, provided the expected long-term protection for each participant is actuarially better than the standard of (75% of CPI) -1%.

Similarly, the plan sponsor and members might prefer an excess earnings formula, using the fund's actual performance as a guide or an external fund as a guide. Again, this should be permitted, if it clearly gives greater inflation protection than (75% of CPI) -1% in order to compensate for the lack of predictability of such a formula. Guidelines as to the appropriate base-rate could be prepared by the Pension Commission.

Recommendation 6:

> **Legislation should permit alternative arrangements that offer actuarially better inflation protection than the recommended standard of (75% of CPI) -1%.**

Recommendation 7:

> **The Pension Commission of Ontario should develop regulations and guidelines to assist plan sponsors and their actuaries in determining what arrangements would be considered to offer actuarially better inflation protection than the standard of (75% of CPI) -1%.**

Age at which Indexing Begins

A particularly difficult question is when indexing should start. Should it be at 65 or later, or at the normal retirement age, or at the start of retirement? We think that the indexing should commence at the later of the time of retirement or 55 years of age.

Recommendation 8:

> **Legislation should require that adjustments for inflation protection begin at the later of the age of retirement or age 55.**

Deferred Pensioners

In Chapter 10 we discussed the plight of the deferred pensioner. Because such a person now has the right under the Ontario Pension Benefits Act to withdraw his or her vested entitlement and place it in a self-directed locked-in RRSP, much of the harshness found in earlier periods has disappeared. Still, we think that an employee who has made a substantial commitment to a company through many years of work should be entitled to have the funds remain with the company and be protected from inflation. We would adopt the (75% of CPI) -1% formula for the pre-retirement period. This is the same as the federal government's optional formula for deferreds. As with pensions after retirement, we would allow alternative formulas which offer actuarially better inflation protection than (75% of CPI) -1%.

Recommendation 9:

> **The formula (75% of CPI) -1% should apply to deferred pensioners as a minimum legislated standard.**

Recommendation 10:

> **Legislation should permit alternative arrangements for deferred pensioners that offer actuarially better inflation protection than the recommended standard of (75% of CPI) -1%.**

Under the federal legislation a plan sponsor who chooses the (75% of CPI) -1% formula is relieved of the obligation under the 50% employer contribution rule. Determining whether the 50% rule applies in any particular case is relatively costly to plan sponsors and administratively inconvenient. Nevertheless, the 50% rule assists a terminated employee by tending to ensure that the amount transferred to a locked-in RRSP is not solely the employee's own money. On the other hand, if an employer were to give a terminated employee the benefit of inflation protection retroactively, this would more than compensate for the loss of the 50% rule. We recommend, therefore, that the 50% employer contribution rule be retained, unless the plan sponsor applies inflation protection retroactively to deferred pensioners until retirement.

Recommendation 11:

> **The 50% employer contribution rule should be retained during the deferment period unless the plan sponsor applies inflation protection retroactively to deferred pensioners.**

Should companies have to keep all deferred pensioners on their books? This would impose a substantial administrative cost for companies, and so some cut-off point would be desirable. We think that smaller pension payments, where the pension is less than about 10 per cent of the Average Industrial Wage, should be entitled to remain in the plan only with the consent of the sponsor. The sponsor would have the right to insist that other deferred pensioners take the funds out into a locked-in RRSP. We recommend that the cut-off point should be pensions equal to one-tenth of the Average Industrial Wage at the time of termination.

Recommendation 12:

> **Deferred pensions less than the value of one-tenth of the Average Industrial Wage at the time of termination should be allowed to remain in the plan only with the sponsor's consent.**

Money-Purchase (Defined Contribution) Plans

We do not recommend that money-purchase plans must be indexed. In a money purchase plan the plan sponsor and the actives do not gain at the expense of the retirees. Whatever fund is available in the plan for an employee at the time of retirement is used to purchase an annuity for the retiree. We recommend, however, that employers be required to offer retiring employees the option of taking an indexed annuity in accordance with the formulas we have recommended for defined benefit plans.

Recommendation 13:

> **Sponsors of money purchase plans should be required to offer indexed annuities to retiring employees as an option.**

Indexed Bonds

Indexed annuities would be more widely available and at a lower cost than at present if indexed bonds were available to those providing indexed annuities. In particular, indexed bonds would allow the smaller plan sponsors, either directly or indirectly through financial institutions, to cope more easily with inflation protection legislation. Furthermore, too great a shift from defined benefit plans to money purchase plans and RRSPs might affect the capital markets because defined benefit plans tend to be more heavily invested in equities than individually controlled plans. These considerations are discussed in Chapter 9, as is the recommendation that the Ontario government consider the introduction of indexed bonds.

Recommendation 14:

> **The Ontario government should introduce the sale of indexed bonds.**

Group RRSPs

Employers can now avoid the Pension Benefits Act by setting up group RRSPs. Yet an employer-sponsored group RRSP has similar objectives to a money purchase pension plan. It appears to us to be illogical for the federal and provincial governments to have such elaborate rules for pension plans but virtually no similar restrictions for group or other RRSPs. A member of a group RRSP is not prevented by legislation from withdrawing the sum from the plan at any time (but, of course, paying tax). In the case of a pension plan, the sum is locked in and can only be used to purchase an annuity on retirement. Thus, the compulsory saving-for-retirement feature of a pension plan is lost with a group RRSP. Similarly, the spousal protection provision recently introduced into pension legislation is not contained in the group RRSP arrangement. Surely, if spouses should be protected in the case of pension plans, they should also be protected in group RRSPs. The same is true for part-time workers now covered under pension legislation but not under group RRSPs.

We recommend that employer-sponsored group RRSPs that are not supplementary to a substantial pension plan be covered by provincial pension legislation. It seems clear that Ontario has legislative jurisdiction to control RRSPs this way. As we discussed in chapter 12, to leave group RRSPs unregulated is to invite existing plan sponsors to move from highly regulated money purchase and defined benefit plans to group RRSPs and for new plan sponsors to set up group RRSPs instead of defined benefit plans or money purchase plans. The definition of what should be considered as an employer-sponsored group RRSP will require careful consideration in the drafting of legislation.

Recommendation 15:

> **Employer-sponsored group RRSPs should be covered by the Ontario Pension Benefits Act (and should be required to offer indexed annuities as an option).**

However, group RRSPs sponsored by small employers should be exempt from any extension of the Ontario Pension Benefits Act. Because of the administrative costs associated with a pension plan, these small companies are not likely to choose to set up a pension plan. An unregulated group RRSP is therefore better than no plan at all. We suggest that small plans with under, say, 15 members be treated as individual RRSPs and not be covered by the legislation. This is at present the cut-off point for group OHIP coverage and was the number used in the original Ontario pension legislation in the 1960s when compulsory pension plans were being considered. We leave it to the legislative drafters to block attempts to subdivide plans into small units to avoid the legislation.

Recommendation 16:

> **Employer-sponsored RRSP group plans with under 15 members should be exempt from the Pension Benefits Act.**

Individual RRSPs do not create quite the same concern as employer-sponsored group RRSPs. They are often supplementary or alternatives to pension plans or are used by self-employed persons who do not have the opportunity to join a pension plan. They are not sufficiently like pension plans to be controlled by the provincial Pension Benefits Act. We suggest, however, that the federal government, in conjunction with the provinces, reconsider the existing rules relating to RRSPs to ensure that a portion of the sum (perhaps half or three-quarters) is locked in both before and after retirement.

Recommendation 17:

> **The federal and provincial governments should give careful consideration to locking-in before and after retirement at least part of the sum accumulated in individual RRSPs.**

Timing for Collective Agreements

Should plans where a union is involved be covered by inflation protection legislation? We see no reason why they should not be. Not all unions are able to bargain for changes to pension benefits. Moreover, our recommended inflation protection formulas are minimum requirements. Unions will in many cases attempt to improve the formula. We do not consider it fair, however, for the legislation to commence during a current collective agreement. To do so would be to impose additional costs on the employer when there is no opportunity to seek tradeoffs in other areas. (No doubt many companies would choose voluntarily to treat union and non-union employees equally and would start inflation protection at the same time for union and non-union employees.) When the period of the current collective agreement is over, however, inflation protection should be made retroactive to the date of the implementation of the inflation protection legislation. In the course of negotiations for the new collective agreement this cost can be taken into account by both parties.

Recommendation 18:

> **Inflation protection legislation should commence at the end of any current collective agreement for the applicable employees, at which point it should be made retroactive to the date of the implementation of the inflation protection legislation.**

Multi-Employer Pension Plans

Another difficult question is whether private sector multi-employer pension plans (MEPPs) should be exempt from inflation protection legislation. They have many of the features of money purchase plans, which we have said need only provide optional inflation protection. Yet they also have some of the features of defined benefit plans. Deferred and retired pensioners do not automatically obtain the benefit of good investment earnings. Indeed, the deferred pensioners rarely do. We think the minimum inflation protection we have recommended above should be provided for MEPPs. We recognize that there may be situations where they may have to reduce the promised benefit in order to pay for inflation protection.

Recommendation 19:

> **Mandatory inflation protection should apply to multi-employer pension plans.**

There may, however, be a period of adjustment necessary for some private sector MEPPs. They cannot legally renegotiate the employers' contributions during the collective agreements, which terminate at different times. We recommend, therefore, that the legislation not be applicable until a substantial period has passed. We pick the period of two years for this adjustment.

Recommendation 20:

> **Inflation protection legislation for multi-employer plans should commence two years after the date of implementation.**

Retroactivity

The most difficult question of all that we have had to deal with is the question of whether the legislation should be prospective only -- that is, should it apply only to pension credits earned in the future? To apply inflation protection retroactively -- or to use a perhaps softer term, retrospectively -- would impose an additional burden on employers who have pension plans, a burden not shared by employers without pension plans. This burden cannot easily be taken into account in future wage negotiations. Moreover, companies with more mature work forces and with more retired workers face a greater burden than employers with younger work forces. This bias gives a decided competitive advantage to employers who are setting up new plants and to foreign competitors. And it gives a very unfair advantage to employers without pension plans. It is also unfair to employers who have already used excess earnings to improve pension plans such as by improving benefits or introducing early retirements. Further, retroactivity does not help retirees for whom the employer has purchased annuities, and of course it does nothing for those without pension plans. We note that the Ontario White Paper of 1984 recommended that inflation protection be prospective only. We are aware of no jurisdiction in North America that provides comprehensive mandatory prospective inflation protection, let alone retroactive inflation protection.

Nevertheless, it is important that retirees not be forgotten. In many cases they did not obtain improved benefits while they were active workers, and many are not now receiving voluntary increases. Moreover, we are very concerned that compulsory prospective inflation protection may discourage those plan sponsors that are now granting voluntary increases to retired members from continuing to do so.

In Chapter 11 we explored two possible solutions. The first encourages retroactivity by offering plan sponsors a number of incentives to give inflation protection on past accrued benefits. The second approach requires a measure of retroactivity.

There are a number of inducements that can be offered to plan sponsors to encourage retroactivity. We propose six. One important inducement is to phase in the desired formula over a period of years if the plan sponsor gives retroactive increases. A second important inducement is to prevent the withdrawal of surplus funds unless inflation protection has been provided retroactively. Thirdly, we have already seen in Recommendation 11 that the 50% employer contribution rule will apply to deferred pensioners unless the plan sponsor provides retroactive increases in the period up to retirement. Fourthly, we recommend below that there be a 25-year amortization period to assist in the funding of retroactivity. Moreover, Recommendation 8 is that inflation protection commence at retirement, if the person is over 55. As our fifth inducement, we recommend that if retroactivity is selected, inflation protection need not start until age 65. Finally, as a sixth inducement, we would lower the cap from 10% of CPI to 8% of CPI. Most of these inducements would by their very nature be phased out during a 15-year transition period.

Many plan sponsors, we believe, would choose to grant voluntary increases to retired workers if they were permitted to use a lower initial formula for prospective and retroactive application. This lower formula could rise gradually over a period of years to the recommended (75% of CPI) -1% prospectively, but would remain at (75% of CPI) -2% for the retroactive component. So, for example, a 15-year phase-in period could be the following:

(75% of CPI) -$2^1/_2$% for the first five years;

(75% of CPI) -2% for the next five years for future benefits and permanently for the retroactive component;

(75% of CPI) -$1^1/_2$% for the next five years for future benefits;

(75% of CPI) -1% thereafter for future benefits.

The effect of these formulas at various rates of inflation can be seen from Table 14.1.

Recommendation 21:

> **Inflation protection should be required for future earned benefits only, but sponsors should be encouraged to grant increases to retireds. Therefore, the sponsor should be permitted to choose the following phase-in period applicable to retireds (including deferreds who have retired) and to the past credits of active workers:**
>
> **(75% of CPI) -2$^{1}/_{2}$% for the first five years;**
>
> **(75% of CPI) -2% for the next five years for future benefits and permanently for the retroactive component;**
>
> **(75% of CPI) -1$^{1}/_{2}$% for the next five years for future benefits;**
>
> **(75% of CPI) -1% thereafter for future benefits.**

Recommendation 22:

> **Plan sponsors who choose to grant retroactive increases should be permitted to commence inflation protection at the age of 65, and they may apply a cap with a rollover when the CPI increase exceeds 8% (rather than 10%).**

Funding Period

As discussed above, another inducement to plan sponsors to give increases on past benefits earned is to make the funding easier than the normal rules would allow. We recommend that sponsors who grant retroactive increases be given, instead of the usual 15-year period, an initial amortization period of 25 years for funding the inflation protection components of the plan. When the Ontario

Pension Benefits Act was introduced in 1965, a similar 25-year amortization period was permitted, but was reduced as the years went by. We would also allow an amortization schedule permitting a lower percentage of payroll in the earlier years to make the funding easier for the plan sponsor.

Recommendation 23:

> **A more liberal initial 25-year amortization period be permitted for sponsors who grant retroactive increases.**

Some plan sponsors, however, would not voluntarily choose the retroactive route. We have explored the possibility of a compulsory scheme along the lines of the voluntary scheme described in the previous recommendation as well as a further concept that had been raised in Chapter 11, that is, delaying the granting of inflation protection increases for a number of years. These techniques would help pay for some of the increased costs associated with retroactivity. The cost would, however, vary from company to company, depending on the maturity of the work force and the number of retired employees. For the reasons previously given, the majority of the Task Force believes that encouraging voluntary retroactivity is the better path. Mr. Pilkey would make retroactivity mandatory. His views are expressed in his attached statement.

Surpluses

A legislative solution to the difficult problem of what to do with surplus funds is required. The subject is explored in Chapter 13. We are persuaded that the extent of surplus, if any, is difficult to identify. What may appear to be a large surplus at one time could disappear if the actuarial assumptions are changed or if the experience is less favourable than the assumptions. Moreover, the raising of the present $60,000 limit on pensions could significantly decrease the extent of surplus funds in many plans. Rather than trying to define what is surplus in a plan, we would prevent the sponsor from withdrawing surplus funds from a plan until adequate inflation protection had been provided on past credits for actives, retireds, and deferreds. This would apply to withdrawals from on-going and terminated plans. (Of course, the plan sponsor would also have to satisfy the Pension Commission's normal solvency rules.) If adequate inflation protection is funded and the plan documents do not prohibit the sponsor from withdrawing the funds, the sponsor would be deemed to be the rightful owner of the withdrawn funds. As we saw in Chapter 13, ownership is often not clear now in these cases.

Recommendation 24:

> **A plan sponsor who funds adequate inflation protection for accrued credits for actives, retireds, and deferreds may withdraw and keep any surplus funds, unless the plan document prohibits withdrawal. This recommendation should apply to existing surplus funds as well as future surplus funds.**

How much inflation protection need be funded before a sponsor should be entitled to withdraw the funds? There are a number of possible alternatives. One is that the formula be the same as for prospective inflation protection, that is, (75% of CPI) -1%. Another alternative is one of the transitional formulas recommended above in Recommendation 21 if the sponsor accepts retroactivity, that is, (75% of CPI) -$1^1/_2$% or -2%. A third possibility is that the formula be approximately half of the prospective formula, that is, (75% CPI) -$2^1/_2$%. Having weighed these alternatives, the majority of the Task Force recommends that the earlier proposed standard for retroactive inflation protection of (75% of CPI) -2% should apply. The plan sponsor should be entitled, as in earlier recommendations, to substitute a formula giving actuarially better inflation protection. Mr. Pilkey's position on the question of the withdrawal of funds is set out in his attached statement.

Recommendation 25:

> **Before surplus can be withdrawn under Recommendation 24, inflation protection should be provided retroactively and funded using the formula of (75% of CPI) -2%.**

This solution would not prevent the employer from adjusting the contribution level each year. The majority of the Task Force recommends that the legislation or the regulations continue to allow the short-term funding decisions to remain in the hands of the plan sponsor, subject of course to the funding regulations under the Ontario Pension Benefits Act. Mr. Pilkey would prevent so-called 'contribution holidays', as stated in his attached statement.

Recommendation 26:

> **The foregoing recommendation would continue to permit the plan sponsor to make the short-term funding decisions, (in contrast to the withdrawal of funds), subject of course to the funding regulations under the Ontario Pension Benefits Act.**

There could be a tendency to terminate overfunded plans prior to the enactment of legislation, assuming the government accepts the above recommendation on the withdrawal of surplus. To prevent such terminations, we recommend that the effective date of the legislation be the date of the release of this Report, or perhaps somewhat earlier.

Recommendation 27:

> **Plans terminated after December 1, 1987, should not be entitled to withdraw surplus funds until adequate inflation protection as described in Recommendation 25 has been provided.**

Chapter 14: Summary and Conclusions

In Chapter 3 we described the federal Guaranteed Income Supplement (GIS) program and the Ontario Guaranteed Annual Income System (GAINS). The two programs cumulatively supplement the OAS and CPP. Each benefit is reduced by $1 for each $2 additional income. The result of this double 'tax-back' is that for every $2 earned, the total GIS-plus-GAINS payment is reduced by $2. In many cases, therefore, low-income pensioners who receive these payments would not be any further ahead if their pensions were indexed. The solution is to exclude inflation protection payments from the tax-back aspect of the GAINS program.

Recommendation 28:

> **The GAINS program should not have payments reduced by the inflation protection component of employment pension plans.**

We view the above recommendations as a reasonable and responsible solution to the difficult questions of inflation protection. As we have noted, Mr. Pilkey would go further than the majority of the Task Force in three areas, as he notes in his statement attached to this Report.

We have not attempted to fill in many of the details of the proposed scheme. We leave that to the drafters of the legislation and to those who will now consult with the knowledgeable individuals and groups interested in the subject matter. Consultation should also take place between Ontario and the federal and other provincial governments to ensure as great a degree of uniformity across Canada in pension legislation as possible.

What we are proposing are minimum legislative standards which, as in the case of the minimum wage law, we expect will be exceeded by a significant number of plan sponsors either through the collective bargaining process or otherwise.

The Task Force believes that the above package of recommendations would greatly improve the basic protection of employees covered by the Pension Benefits Act of Ontario, without placing an undue burden on employers.

TABLE 14.1

PROTECTION PROVIDED BY DIFFERENT FORMULAS

Percentage pension adjustment and equivalent inflation protection

CPI	(75% - 1.0)	(75% - 1.5)	(75% - 2.0)	(75% - 2.5)
%	% %	% %	% %	% %
1	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)
2	0.50 (25)	0.00 (0)	0.00 (0)	0.00 (0)
3	1.25 (42)	0.75 (25)	0.25 (8)	0.00 (0)
4	2.00 (50)	1.50 (38)	1.00 (25)	0.50 (12)
5	2.75 (55)	2.25 (45)	1.75 (35)	1.25 (25)
6	3.50 (58)	3.00 (50)	2.50 (42)	2.00 (33)
7	4.25 (61)	3.75 (54)	3.25 (46)	2.75 (39)
8	5.00 (63)	4.50 (56)	4.00 (50)	3.50 (44)
9	5.75 (64)	5.25 (58)	4.75 (53)	4.25 (47)
10	6.50 (65)	6.00 (60)	5.50 (55)	5.00 (50)
11	7.25 (66)	6.75 (61)	6.25 (57)	5.75 (52)
12	8.00 (67)	7.50 (63)	7.00 (58)	6.50 (54)
13	8.75 (67)	8.25 (63)	7.75 (60)	7.25 (56)
14	9.50 (68)	9.00 (64)	8.50 (61)	8.00 (57)
15	10.25 (68)	9.75 (65)	9.25 (62)	8.75 (58)
16	11.00 (69)	10.50 (66)	10.00 (63)	9.50 (59)
17	11.75 (69)	11.25 (66)	10.75 (63)	10.25 (60)
18	12.50 (69)	12.00 (67)	11.50 (64)	11.00 (61)
19	13.25 (70)	12.75 (67)	12.25 (64)	11.75 (62)
20	14.00 (70)	13.50 (68)	13.00 (65)	12.50 (63)

Respectfully submitted,

M. L. Friedland

Martin Friedland, Chairman

S Jackson

Sydney Jackson, Member

Clifford Pilkey

Clifford Pilkey, Member

MINORITY: CLIFFORD PILKEY

1. I am taking a minority position on three important and fundamental issues relative to indexing inflation protection for pensions because these have not been fully addressed in the Report.

   The three areas that I take issue on are a formula for inflation protection that applies to actives, retireds, and deferreds equally, the withdrawal of surpluses, and contribution holidays.

   The Ontario government responded to these important issues in the latter part of 1986 by placing a moratorium on surplus withdrawals and setting up a Task Force which has the responsibility to make specific recommendations on inflation protection for pensions including the question of surpluses.

   The government's response came about because of the impoverishment of retirees whose pensions are being eaten away by inflation exposing a pension system that provides little or no inflation protection beyond OAS and CPP.

   The other incident that prompted a government response was the public's show of indignation when Conrad Black's interests laid claim to immense pension fund surpluses of the Dominion store employees.

   While the Task Force is in agreement on a basic minimum standard formula for inflation protection, that formula must be applied to actives, retireds, and deferreds if we are to prevent further erosion of the promised benefit. Equally important is the way pension surpluses are used to offset the ravages of inflation on pensions.

   The majority of people in this province are not prepared to accept that in Canada to grow old must inevitably mean to grow poor. It is now widely understood that the poverty of many older Canadians proceeds directly from inadequate pensions and particularly from the deficiencies of the private pension system on which so many are forced to rely. What the private pension industry tries to obscure is that inflation is essentially a redistribution process in which employers have been the winners and pensioners have been the losers. This unfair redistribution process is discussed in Chapter 2 of the Report.

The Scope of the Formula

2. There is only one equitable principle on which to base indexing: the same formula must apply to all current and future pension benefits. It is not reasonable to offer today's pensioners less security than is proposed for young people who will retire in the future with pension credits earned after the law is changed. Today's pensioners have already lost too much. They must at least be guaranteed that it will not happen again.

3. A minimum standard formula, such as the proposed (75% of CPI) -1% should not differentiate in its application among actives, retireds, or deferreds. Indeed, my willingness to agree to a formula that provides less than full inflation protection is predicated on that formula applying to all benefits.

4. The report wishes to see the pensions of both current retirees and deferreds indexed along with the benefits arising from future pension credits. However, the Report would pursue that objective by encouraging voluntary application of indexing to retireds and deferreds. This voluntary compliance would, in turn, be encouraged by 'inducements'. The voluntary compliance formula, however, would provide for indexing in the next five years only at the rate of (75% of CPI) $-2^{1}/_{2}\%$. If inflation were 5% then this formula would provide adjustments of only $1^{1}/_{4}\%$. That is to say, the adjustments would amount to only one-quarter of the actual rate of inflation. Such adjustments cannot reasonably be called inflation protection.

Surplus Withdrawals and Contribution Holidays

5. In the absence of recommendations that would extend mandatory indexing to both current pensioners and deferreds, I also find it inappropriate to

re-open the door in any way to outright surplus withdrawals or to permit a continuation of contribution holidays. Partial or total contribution holidays, which many plan sponsors have been granting themselves, diminish pension plan surpluses just as surely as do outright withdrawals. As pension funds are run down by contribution holidays, the apparent cost of financing indexed benefits rises.

6. In recent years the vast majority of pension funds have realized wholly unexpected investment gains -- a windfall. The windfall is mainly attributable to inflation-induced increases in interest rates and unprecedented gains on the stock market. The dramatic crash of last October only rolled back the stock market to January 1987 values, leaving pension funds with the full extent of surpluses accumulated in earlier years. The first claim on those unexpected gains should be the protection of the real value of the very pension benefits for which the investments were made in the first place.

7. Legislation should establish a minimum guarantee that employers will not have access to unexpected gains or surpluses until all pension benefits are indexed and fully funded. This minimum standard should apply to both future pension credits and pension credits already earned. We must ensure that today's pensioners will benefit from the recent windfall gains on pension investments.

8. Many pension plans, particularly those which require employee contributions, have implicit or explicit guarantees that the employer will make contributions at a certain level and that the funds will be used solely to improve benefits. Any legislative or regulatory provisions allowing employers access to surplus after they have complied with minimum standards should be formulated carefully to avoid prejudicing these greater rights. In addition, in contributory pension plans any contribution holidays should be shared between employer and employees.

9. The issue of costs must be faced squarely, but it must also be seen in perspective. The same inflation that eroded the real value of pension benefits also raised interest rates. This reduced the costs to employers in two ways. When an employee earns a pension credit through his or her service, a certain amount of money must be deposited, or 'reserved', in the pension fund to pay for that prospective benefit. These deposits are the employer's normal costs. Employees may also contribute to the plan. The investment income which the reserves earn contributes as well to funding the promised pension benefit. The size of those employer deposits depends therefore on the rate of interest and other investment earnings.

10. Actuaries estimate the cost of pension benefits on the basis of assumed average life expectancies for plan members, and an assumption about the rate of interest that may be earned on invested contributions. When investments perform better than the assumption, a gain or surplus is produced. When these gains persist, as they have in recent years, the actuary may also increase the assumed rate of interest and recommend a lower level of contributions. The inflation-induced gains of the past ten years have reduced employers' pension costs both by generating surpluses on the existing fund and by reducing the level of ongoing employer contributions into those same funds. The typical impact of the process has been to eliminate one-third of the cost of any particular level of pension benefit.

11. Indexing benefits simply means using some portion of the higher returns to protect the value of the benefit. The same inflation that eroded the purchasing power of pensioners' income also drove up interest rates and the return available on pension fund investments. But the higher investment returns were often not used to preserve the real value of pension benefits and were used instead to reduce employer costs. Inflation is essentially a redistribution process. In private pension plans the losers in the redistribution are the elderly; the winners are the

employers. The only effect of legislated indexing is to diminish the extent of the redistribution.

12. Indexing on the scale proposed in the main body of the Report only pushes employer costs back towards their former levels. Nevertheless, transitional measures may be warranted. The proposal made in the Report with respect to voluntary compliance for current retirees would still delay the actual implementation of indexation far too long for the majority of retirees ever to see any significant benefit. For the elderly, justice delayed is truly justice denied.

13. Given the marked fall in the cost of a non-indexed benefit in recent years, the corporate sector's strident claims about prohibitive cost deserve a hearing only in so far as they apply to the structuring of a transitional period. The corporate sector's argument about cost would require us to abandon the interests of pensioners and treat them as water under the bridge. Recent developments have shown that-- notwithstanding their claims about insupportable costs -- employers will agree to indexing when they are confronted with economic power. The Legislature must ensure that those without economic power also receive a measure of justice.

Conclusion

14. In the Preface to this document I said that the majority of Canadians cannot accept that in this country to grow old must inevitably mean to grow poor. That is the overriding public concern that gave rise to the creation of this Task Force. We were asked to devise a formula for indexing private pension benefits to inflation in a manner that would be both fair and reasonable. To be fair, such a formula must apply to all benefits. No one, especially current pensioners, must be left out. To be reasonable, the formula must provide significant protection against inflation and must do so without protracted delay. To be responsible, the formula must take into account the transitional problems that may arise

as pension costs are pushed back towards their former levels. The minority position that I am submitting speaks to all of these needs.

Respectfully submitted,

Cliff Pilkey

Clifford Pilkey, Member

APPENDIX

Submissions to the Task Force

Abitibi-Price Inc.	Bernd K. Koken
Actrex Partners Limited	Peter C. Hirst, President
Actuarial Consultants of Canada Ltd.	J. B. Patterson
Alexander Consulting Group	Sheree Johnson, Research Analyst
Allenvest Group Ltd.	William S. Allen, President
Ashman, G. Robert	
Association of Canadian Distillers	M. McDermott, Chairman, Industrial Relations Committee
Association of Canadian Pension Management	Andrea L. Vincent, President
Batchelor, G. T.	
Beveridge, M.	
Bissonnette, L. J.	
Board of Trade of Metropolitan Toronto	F. G. Hamilton, Q.C.
Brunswick Corporation	Bob Ruthkewicz, Vice-President of Human Resources and Kelly C. Smith; Director of Compensation and Benefits; Ron Hanson, Vice-President of Human Resources, Mercury Marine Division
Campbell, A. J.	
Canadian Co-ordinating Committee on Multi-Employer Plans	James A. McCambly & Clifford Evans
Canadian Federation of Independent Business	Judith Andrew, Director of Provincial Affairs
Canadian Institute of Actuaries	Brian Wooding, Executive Director
Canadian Labour Congress	
Canadian Paperworkers' Union	P. Holder
Canadian Union of Public Employees,	Jeff Rose, National President and Lucie E. Nicholson, President, Ontario Div.
CAW/TCA Canada	Robert White, President and B. Walker
Chapman, A. L.	
Chrysler Canada Ltd.	M. J. Closs, President and Chief Executive Officer
Communications & Electrical Workers of Canada	Fred Pomeroy, President
Co-operative Housing Foundation of Canada	Nick Van Dyk, Senior Research Co-ordinator

Cornell, Peter M.	
Council of Ontario Construction Association	David Frame, Executive Vice-President
Courchesne, Joseph R.	
Craik, Ernest	
Crow, Stanley	
CUPE Local 1000, Ontario Hydro Employees' Union	Jack MacDonald
Danyshyn, Stan	Pension Consultant
Dawe, Gordon	
Domglas & Libbey-St. Clair Inc. Retirees' Club	John M. Dent & Nick Dubois
Edari, Raoul	
Employees & Pensioners Committee on Inflation Compensation	A. J. Campbell
Falconbridge	R. J. Brailey, Manager of Human Resources and Public Affairs
Federal Superannuates National Association	Leslie W. C. S. Barnes
First Canada Securities Corporation	J. Paul Robinson
Fleming, Robert	
French, Marshall	
General Motors of Canada	Tayce A. Wakefield, Government Relations
Gordon Group	Ian J. F. McSweeney
Graphic Arts Multi-Employer Pension Trustees	Leonard Paquette and Frank Smith
Grubner, H.	
Hamilton-Wentworth Police Association	Gerald Evans, Pension Chairman
Hartman, Bruce L.	
Heino, K.	
Hewitt Associates	Frank Livsey
Hirst, Peter C. and Brown, Robert L.	
Imperial Oil Ltd.	W. J. Young, Director, Vice-President and Chief Financial Officer
Inco Ltd.	W. R. O. Aitken, Executive Vice-President
International Association of Machinists & Aerospace Workers	V. E. Bourgeois General Vice-President
International Brotherhood of Electrical Workers	Patrick J. Dillon

Investment Dealers Association	K. Michael Edwards
Irwin, Dorothy	
Johnson & Higgins Willis Faber	Patrick W. Longhurst Vice-President and Manager
Joint Committee on Graphic Arts	C. Michael Mitchell, Legal Adviser
Kerr, L. W.	
Koskie & Minsky	R. Koskie
Labourers' Pension Fund of Central & Eastern Canada	Raymond Koskie
Lakehead University Faculty Association	Dr. K. P. Satinder, President
Lamb, Robert J.	
Life Underwriters Association of Canada	Robert Templeton, Chairman and Chief Executive Officer
Linnell, E. T.	
Marsh, Arthur	
Martin E. Segal Co.	K. Paul Duxbury, Actuary
Maynard, John C.	
McCrosson, Michael G.	
McElrath, S. H.	
Meech, Anthony J.	
Mercury Marine (Division of Brunswick Corporation)	Ronald G. Hanson
Merrill Lynch	Bruce Hartman, Vice-President, Investment Management Services
Merritt, John A.	(CN Railway Worker)
Ministry of the Environment	Dennis Dufour
Mooney, John	
Moyer, William	
Murray, LeHouillier, Hartog, Actuaries & Consultants	C. W. Hartog, Chairman, Ontario Division
Mutual Life of Canada	R. M. Astley, Executive Vice-President
Nachsen, Gary	
Northern Telecom Canada Ltd.	I. H. D. Bovey, Assistant Vice-President, Human Resources
Norton, James H.	
O'Hara, G. G.	
Ontario Advisory Council on Women's Issues	Bridget Vianna, Executive Officer
Ontario Association of School Business Officials	John W. Boich, Executive Officer

Ontario Chamber of Commerce	J. G. Carnegie, Executive Director
Ontario Confederation of University Faculty Associations	John Starkey, President
Ontario Advisory Council on Senior Citizens	Ivy St. Lawrence, Chairman
Ontario Federation of Labour	Gordon W. Wilson, President
Ontario Federation of Women Teachers' Association	David Aylsworth, Executive Assistant
Ontario Forest Industries Association	Ian D. Bird, President
Ontario Hydro	S. G. Horton, Executive Vice-President
Ontario Mining Association	Patrick Reid, Executive Director
Ontario Municipal Employees' Retirement Board	A. W. Reeve, Executive Director
Ontario Public Service Employees' Union	James Clancy, President
Ontario Secondary School Teachers' Federation	Ron Harris, Assistant Secretary
Ontario Teachers' Federation	David Aylsworth, Executive Assistant
Ontario Trucking Association	Raymond R. Cope, President
Ottawa Carlton Pensioners Association	Stephen Brown, Chairperson, CUPE
Polysar Limited	S. J. Goldenberg, Vice-President Personnel
Professional Engineers' Group	P. H. B. Patel, Chairman
Public Service Alliance of Canada	Daryl T. Bean, President
Ray, A.K.	
Retail Council of Canada	Alasdair J. McKichan, President
Rice, Stanley A.	
Roach, J. R. Andre	
Ross, M. N.	
Round, Stephen	
Stock, George R.	
Texaco Canada Inc.	Peter I. Bijur, President and Chief Executive Officer
Towers, Perrin, Forster & Crosby	Gerald F. Schnurr
United Steelworkers of America	Hugh Mackenzie, Research Director
United Steelworkers of America District 6	Leo W. Gerard, Director
University of Waterloo	Keith P. Sharp, Assistant Professor, Robert L. Brown and Peter C. Hirst
Walker, B.	
Wilcox, J. H.	
William M. Mercer Ltd.	Daniel L. McCaw, Director
Wyatt Company	Sheryl Smolkin
Wood, Tom	